The attached guidance, "*TMDL Development and Implementation Guidance: Integrating the WPDES and Impaired Waters Programs, Edition No. 2*", was developed for use by Department staff when making decisions related to implementing requirements from USEPA-approved Total Maximum Daily Loads (TMDLs) in Wisconsin Pollutant Discharge Elimination System (WPDES) permits.

Section 303(d) of the Clean Water Act requires states to develop TMDLs to address waterbody impairments. TMDLs include wasteload allocations (WLAs) for point source dischargers, which then must be accounted for in WPDES permits. The attached document, therefore, provides guidance for staff to help them consistently implement WLA-derived limits and related conditions in WPDES permits.

This guidance was developed by a team of TMDL and WPDES program staff from DNR offices around the state over about the last 6 months. Draft guidance has been made available to WPDES staff for their input and the Department is now soliciting comments from external stakeholders as well. Once the 21 day notice period is complete, all comments will be considered, revisions will be made to the guidance as needed, and final guidance will be made available to the appropriate internal and external stakeholders.

Comments related to this draft guidance document should be sent to:
DNRTMDL-WPDESGUIDANCECOMMENTS@wisconsin.gov

BUREAU OF WATER QUALITY
PROGRAM GUIDANCE

WASTEWATER POLICY & MANAGEMENT TEAM
WATER RESOURCES POLICY & MANAGEMENT TEAM

TMDL Development and Implementation Guidance: Integrating the WPDES and Impaired Waters Programs

Edition No. 2

February 12, 2013

Guidance Number: 3400-2013-02

This document is intended solely as guidance, and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations, and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

APPROVED:

_____ _____

Susan L. Sylvester, Director
Bureau of Water Quality

Date

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1 Introduction

Section 303(d) of the Clean Water Act requires delegated states to determine on a biennial basis whether waterbodies are impaired (not meeting designated uses or water quality criteria). One of the underlying goals of the Clean Water Act is to restore all impaired waters so they meet applicable water quality standards. One of the key tools to meet this goal is the development of a total maximum daily load (TMDL). A TMDL is developed after consideration of all sources of pollution to an impaired waterbody and is stated as the amount of a pollutant that the waterbody can assimilate and not exceed water quality standards.. Pollutant loads are determined in consideration of in-water targets that must be met for the waterbody to respond. Targets may be based on promulgated numeric water quality criteria (e.g., dissolved oxygen > 5.0 mg/L; *E. coli* bacteria < 235 cfu/100 ml) or may be based on narrative water quality criteria developed in consideration of local data and/or nearby reference sites.

Once targets are set for a waterbody, the TMDL is established by allocating the allowable load between the point sources (WLA) and the nonpoint sources (LA) with a small amount of the total load set aside as a margin of safety (MOS). Thus, three components make up a TMDL: WLA + LA + MOS.

- The wasteload allocation (WLA) is the total allowable pollutant load from all point sources (e.g. municipal, industrial, CAFOs, MS4 stormwater). Reserve capacity may either be built into the WLA or be a separate component of the total loading capacity to allow for future growth in the watershed.
- The load allocation (LA) is the allowable pollutant load from non-point sources (agricultural, CAFO off-site landspreading, residential runoff, etc.). Natural sources (e.g., runoff from nondisturbed areas) are typically covered under the load allocation, and whenever possible NPS loads and natural background loads should be distinguished.
- The margin of safety (MOS) accounts for uncertainty in modeling and calculating WLAs and LAs.

By federal law, TMDLs must be expressed as a daily load. However, a TMDL may also reflect monthly, annual and seasonal loads needed to meet applicable water quality standards. For more information related to TMDL development, including a list of USEPA approved TMDLs, visit: http://dnr.wi.gov/topic/tmdls/. See also section 4.3 on p. 17.

TMDL-WPDES Issues

Federal and state regulations require implementation of TMDLs to meet water quality standards where there are implementation mechanisms (i.e., Wisconsin Pollutant Discharge Elimination System (WPDES) in place and supported by law. For point source discharges, WLAs delineated in the TMDL need to be expressed in each permit as a water quality-based effluent limit. In order to address topics related to the implementation of state and federally approved TMDLs in WPDES permits, the "TMDL Implementation Guidance Team" (guidance team) was formed. Based on discussions with regional and central office staff, this guidance team developed a list of issues related to issuing WPDES permits in areas where TMDLs have been approved.

This guidance document, while comprehensive, is meant to be dynamic - updated as program needs dictate. This is due in part to the experience the WDNR will gain as we implement TMDLs and the guidance in this document. This 2012 edition consitutes the second release of this guidance document. Any guidance written prior to this date is no longer appropriate for use in the TMDL-WPDES implementation program.

Contributors to this document (editions #1 and #2):

Kathy Bartilson
Jim Bauman
Corinne Billings
Jim Bertolacini
Nicole Clayton
Mark Corbett
Kari Fleming
Jackie Fratrick
Mike Hammers
Kevin Kirsch
Paul La Liberte
Amanda Minks
Pat Oldenburg

Thanks also to Water Quality and Watershed Management staff statewide, DNR Legal Services staff, and United State Environmental Protection Agency (USEPA) Region 5 (Permits, TMDL, & Legal staff) who shared their questions and comments with the guidance team. Your input was essential to creating a detailed guidance document that will lead to more effective TMDL development and implementation.

Further guidance development is planned to address issues not yet covered by this document. Department staff and others that use this document should contact Water Resources, Wastewater, or Runoff Management PMT members if they wish to suggest issues that may need to be addressed in future revisions or additions to this document.

2 Overarching Issues

Section 2 addresses topics that are related to both the development and implementation of TMDLs in WPDES permits. Subjects such as regulatory authority, processes for implementation, and public input opportunities are covered.

2.1 DNR Authority for Development & Implementation of TMDLs

Section 303(d) of the Clean Water Act requires three steps:

- Identify waters that are impaired (after the application of technology and water quality-based effluent limitations).
- Prioritize waters, taking into consideration the severity of their pollution.
- Establish TMDLs for these waters at levels necessary to meet applicable water quality standards, accounting for seasonal variations and with a margin of safety to reflect lack of certainty about dischargers and water quality.

Under s. 303(e) of the Clean Water Act, states are required to develop plans for all waters. The plans should include, among other things, (1) discharge limits as stringent as the requirements of its water quality standards and (2) TMDLs. USEPA guidance has proposed that states complete TMDLs within 8 to 13 years of listing the waterbody on the s. 303(d) list. As the complexity of TMDLs grows nationwide, USEPA is setting TMDL quotas with the state to help them keep on pace. Wisconsin's TMDL "quota" is currently 80 TMDLs a year (TMDLs are counted by stream reach and individual pollutant). This number changes as TMDLs are developed and new waters are listed. Once USEPA approves a TMDL, they expect the Wasteload Allocations in a TMDL to be placed into WPDES permits.

Wisconsin administrative rules that apply to establishing TMDLs, which along with applicable statutes are summarized in Appendix C, were developed at different times over a 20-year period during which state and national understanding of TMDLs evolved. The result is administrative rules with conflicting expectations as to the appropriate procedure for TMDL establishment and incorporation into WPDES permits.

Chapters 283, Wis. Stats., and NR 121, Wis. Adm. Code, specifically address TMDLs and statewide Areawide Water Quality Management Plans (AWQMP. Section 283.83(1)(c), Wis. Stats., requires TMDLs to be included in AWQMPs. Section 283.31(3), Wis. Stats., requires permits to include effluent limitations necessary to avoid exceeding TMDLs established pursuant to s. 283.83(3), Wis. Stats. Section, NR 121.05(1)(e), Wis. Adm. Code, reflects the statute by requiring TMDLs in AWQMPs for each water quality limited segment. Together s. 283.83(3), Wis. Stats., and ch. NR 121, Wis. Adm. Code, establish the procedure to formally approve a TMDL as an amendment to the AWQMP. Chapter NR 212, Wis. Adm. Code, contains requirements for WLAs and corresponding WQBELs for BOD in specific stretches of the Wisconsin and Lower Fox Rivers.

2.2 TMDLs & Areawide Water Quality Management Plans

Areawide Water Quality Management Plans (a.k.a. Basin Plans) are a required part of the Clean Water Act, which is reflected in ch. NR 121, Wis. Adm. Code. The Department updates Areawide Water Quality Management Plans through a continually updated computer database (Waterbody Assessment, Tracking, and Electronic Reporting System (WATERS)). Separate from the plan update process is the plan amendment process. Historically, plan amendments have been used for key management actions with significant regulatory or grant implications. A plan amendment is a specific document that is officially added to the AWQMP plan through public review and approval by the DNR and USEPA. Examples of documents handled this way historically are Priority Watershed Plans and Sewer Service Area Plans. For more details on watershed planning consult http://intranet.dnr.state.wi.us/int/water/wm/wadrs/planning/. TMDL

development and implementation may also occur on a smaller scale than the AWQMP for a basin (e.g., HUC-10 or HUC-12 watersheds). The smaller scale watershed TMDLs would also be amended to the original AWQMP.

Once a draft TMDL is reviewed by internal DNR staff and USEPA, a public informational hearing is held to meet the public input expectations of both the federal TMDL process and the AWQMP amendment process. The DNR public notices a public comment period of at least 30 days and the date(s) of the public informational hearing. DNR staff review all comments received during the public comment period and information hearing. If significant changes to the TMDL are made during this first step, the TMDL will go through the initial steps of the process again, and be re-submitted for public comment. However, if no significant changes are made, the TMDL is officially approved with the Water Quality Bureau Director's signature, and then submitted to USEPA for their approval.

With USEPA's approval, the TMDL is considered final and automatically updated to the AWQMP pursuant to ch. NR 121, Wis. Adm. Code, as shown in the flow diagram on page 8. Once the TMDL is approved, all issuances and reissuance of WPDES permits for point sources addressed by the TMDL need to be consistent with the WLAs in the TMDL.

The preamble in the Federal Register establishing 40 CFR 130.6 (50 FR 1779) clearly states that when a TMDL is approved by USEPA, the AWQMP are considered automatically updated and approved. Therefore, once a TMDL is approved, the WLAs contained in the TMDL are also incorporated into the federally approved AWQMP.

The steps are as follows (and also reflected in the flow diagram on page 8):

Step 1. Prepare Draft TMDL

Step 2. Internal & USEPA Review; revise TMDL

Step 3. Schedule public informational hearing, prepare Public Notice and Press Release

Step 4. Post TMDL on web, start formal comment period (minimum of 30 days) and hold public informational hearing(s)

Step 5. Receive and respond to public comments
If significant changes are needed to TMDL return to Step 2. If no significant changes move to Step 6.

Step 6. Bureau Director signs TMDL; TMDL is sent to USEPA for approval. [1]

Step 7. USEPA reviews the TMDL.[2] Under 40 CFR 130.7(d)2., USEPA must either approve or disapprove the TMDL. If it is disapproved, USEPA must propose a revised TMDL.

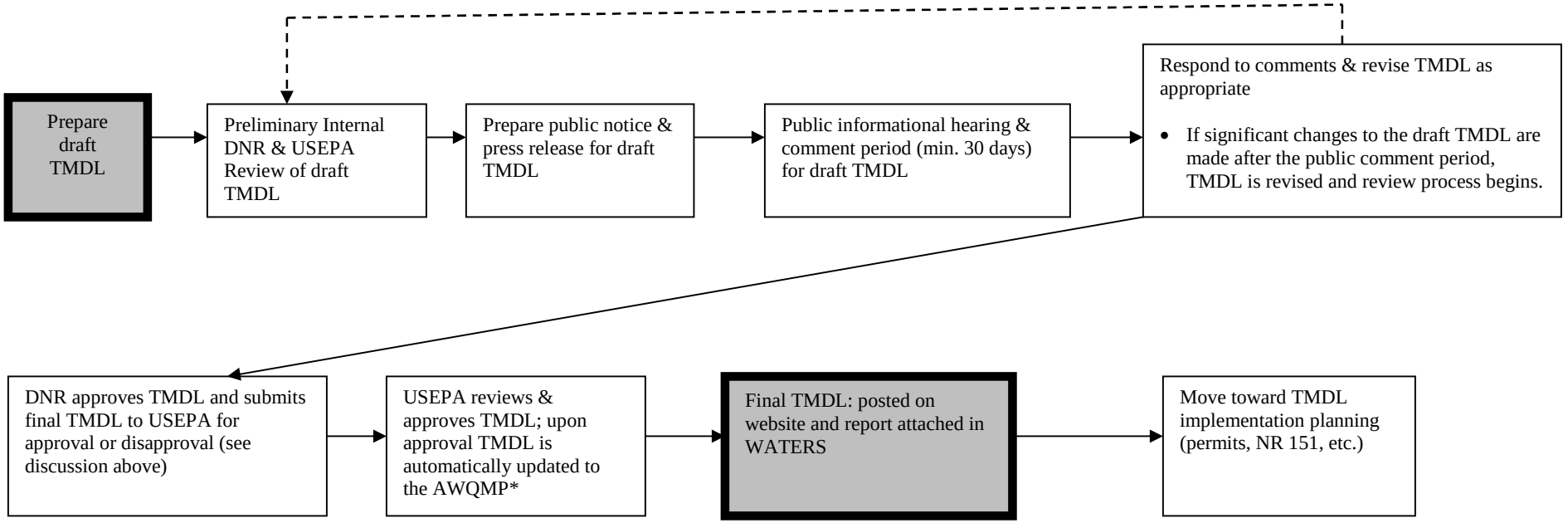
Step 8. Once DNR receives signed approval letter from USEPA, TMDL is automatically updated as an amendment to the AWQMP.

Step 9. TMDL is posted on DNR website as state and federally approved, and updated to the WATERS database.

Step 10. Implementation planning continues.

[1] Constituents questioning when to challenge the state approved TMDL should consult with outside legal counsel or refer the inquiry to DNR legal staff. See also p. 11 for more discussion of this topic.
[2] Affected party may challenge USEPA decision in federal court (5 USC s. 702). If challenge is successful, TMDL comes back to USEPA. USEPA may request state's assistance to help address issues outlined in the court decision.

Process for Approval of a TMDL and amending the Areawide Water Quality Management Plan



The process for amending TMDLs to AWQMPs will be the same for designated and nondesignated areas of the state as outlined in the flow diagram shown on page 8. In designated areas, AWQMPs are prepared by a designated planning agency such as a regional planning commission rather than DNR. Ideally, the planning agency for designated areas of the state will be involved in the development of TMDLs in its area. At a minimum, designated planning agencies will be solicited for participation in creating the draft TMDL.

As mentioned previously, according to federal regulations USEPA must either approve or disapprove the TMDL. If it is disapproved, USEPA must propose a revised TMDL. Should this happen and it is not possible to coordinate AWQMP plan update into USEPA's process, a separate AWQMP process might be necessary.

2.3 TMDLs & the Wisconsin Environmental Policy Act (WEPA)

Chapter NR 150, Wis. Adm. Code, specifies the level of Environmental Analysis and Review for various Department Actions. Section NR 150.03(6)(b)5, addresses adoption and revision of Areawide Water Quality Management Plans. Item d. in that section refers to "Other plan elements that would predetermine future department actions under ss. 281.41 *[plans and specs for WWTP modifications]* and 283.31 *[WPDES permit procedures]*, Wis. Stats., or ch. NR 110.08 (4) which require conformance to the areawide plan." Revising an AWQMP to include any of the elements listed in item d., including TMDLs, is considered to be a Type III action. Type III actions require issuance of a news release or other public notification under ch. NR 150.21,but do not require preparation of an environmental assessment or impact statements.

2.4 The TMDL Development and Implementation Process

The following is a graphic overview of the steps in the TMDL development and implementation process (see the flowchart on page 10). However, issues such as DNR staffing, other competing workloads, etc., may alter this process. DNR can elect to develop joint or separate nonpoint and point TMDL implementation plans and amend them to the AWQMP. WPDES permit recommendations formally amended to the AWQMP must be incorporated into all permits issued in the watershed, according to s. 283.31(3)(e), Wis. Stat. This is a mechanism for settling permit issues that affect multiple dischargers in the watershed.

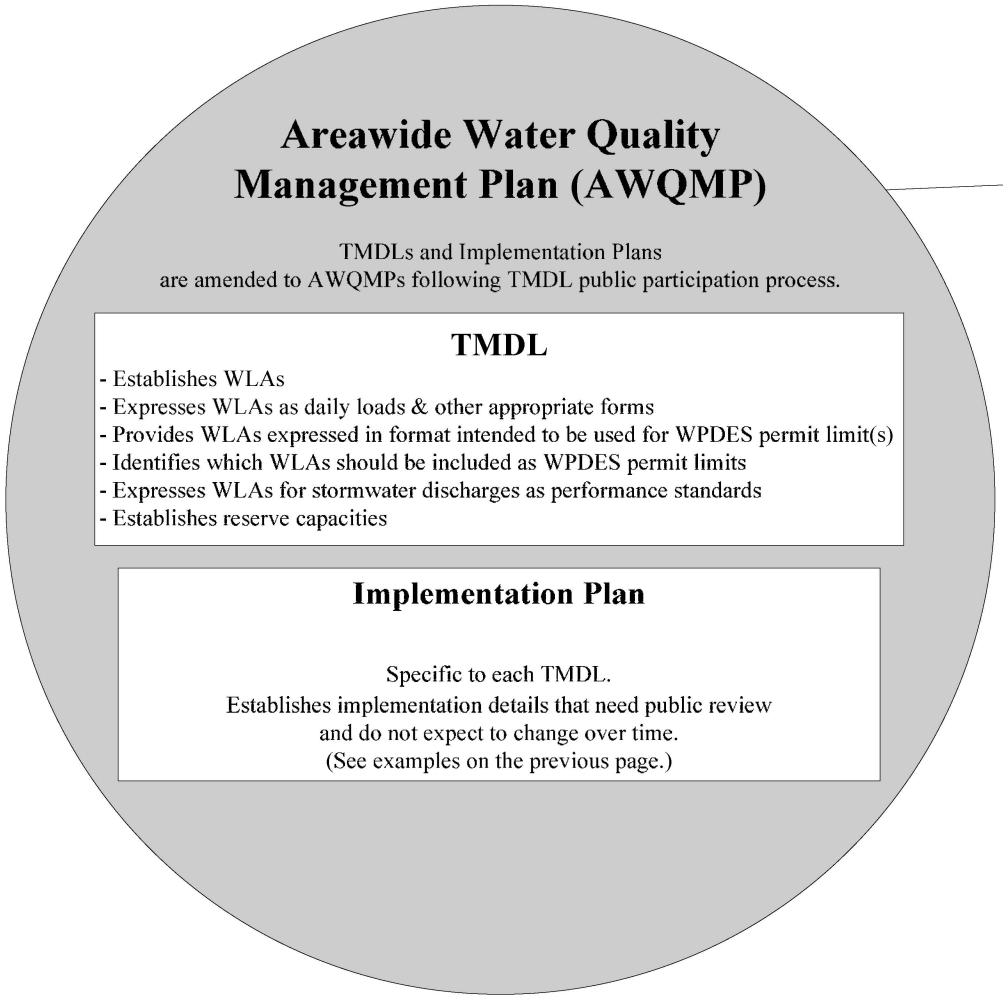
Implementation Plan Examples:

- Justifies permit limits expressed in forms other than daily maximum & monthly/weekly averages
- Describes use of water quality trading framework
- Establishes principles for access to reserve capacity (how it will be allocated, etc.)
- Provides a general timeframe for compliance with WLA consistent with applicable administrative rules
- Indicates whether affected permits will be issued at the same time and, if so, how (e.g., allow some permits to expire/ modify others so all permits may be reissued at once)
- Describe TMDL specific requirement for WPDES regulated landspreading activities
- Provides details on conveyance of general WPDES permit coverages
- Provides methods for determining compliance with MS4 WLAs

Implementation Guidance Examples (this document is an example):

- Establishes statewide guidance for implementing TMDLs in permits (this document is an example)
- Establishes statewide guidance for water quality trading
- Establishes statewide guidance for watershed permitting
- Establishes statewide guidance for TMDL implementation planning

NOTE: The needs of each TMDL may change how certain steps are implemented.



Implementation Guidance

Establishes details that are expected to be different from permit to permit or to change over time as implementation continues.
May be developed with input from stakeholders, but no formal public review process is required under state law.
(See examples on the previous page.)

WQBEL Recommendations

- Include WLAs in limit recommendations memo that are going to be permit limits
- Determine whether WLA-based limit replaces other WQBELs
- Recommend monitoring for pollutants of concern discharged to Impaired Waters
- Translate WLAs into permit limits, when necessary
- Address antidegradation, when necessary

WPDES Permit

- Include WQBELs in permit with monitoring requirements consistent with administrative rules and state statues
- Develop permittee-specific compliance schedules, when needed, consistent with rules, statutes, & implementation plans
- Include facility-specific details as allowed by law (e.g., adaptive management steps, pollutant trading, variances, etc.)

2.5 Including TMDL-derived Limits in WPDES Permits

Once a TMDL has been approved by USEPA, all WPDES permits issued from that point forward must be consistent with the TMDL. See Section 4 for more detailed discussions regarding the expression of TMDL-derived limits in WPDES permits.

2.6 Administrative or Legal Review of TMDL Provisions

Opportunities for administrative and judicial review of TMDLs and implementation plans are available.

- *State Approval of TMDL & Areawide Water Quality Management Plan Amendment*: Affected or interested entities should consult with their own legal counsel regarding the appropriate time and forum for seeking review of a TMDL. It should be noted that a TMDL is not final until USEPA approves it. Once DNR submits its proposed TMDL to USEPA,USEPA must approve or disapprove the TMDL within 30 days (see 40 CFR 130.7(d)2). Refer to the diagram on page 8 that outlines the process for developing TMDLs and incorporating TMDLs into an AWQMP.

- *Federal Approval of TMDL*: The parts of a TMDL that are reviewed and acted on by USEPA may be challenged at the federal level. Provisions that appear in the TMDL but are not mandatory from a federal perspective (e.g. some implementation issues) are not part of USEPA's approval authority and therefore are not subject to federal appeal because, in essence, the federal government will render no opinion on them. USEPA has stated that it reviews the following when reviewing a TMDL:

    - Submittal Letter
    - Identification of watershed, pollutants of concern, pollutant sources and ranking
    - Applicable water quality standards and numeric targets
    - Loading Capacity
    - Load Allocations, Wasteload Allocations and Margin of Safety
    - Seasonal Variation
    - Reasonable Assurances
    - Public Participation
    - Technical Analyses and Supporting Documentation

- *WPDES Permit Issuance/Reissuance*: The permittee or a third party may adjudicate the terms and conditions of a WPDES permit pursuant to section 283.63, Wis. Stats, which states that any permit applicant, permittee, affected state or five or more persons may secure a review by the department of the reasonableness of or necessity for any term or condition of any issued, reissued or modified permit, or any water quality-based effluent limitation established under s. 283.13(5), Wis. Stats. However, all WPDES permits must be consistent with the federally approved TMDL and the AWQMP, including wasteload allocations pursuant to the TMDL.

  TMDL decisions included in the AWQMP amendment (e.g., WLAs specified in the TMDL) may not be challenged under s. 283.63, Wis. Stats., when they are incorporated into a WPDES permit because the public already had an opportunity to challenge those decisions when the TMDL was approved and the AWQMP was amended. Other determinations that were not included in the AWQMP amendment (e.g., the translation of a WLA into an effluent limitation) may be challenged at the time of permit reissuance or modification pursuant to s. 283.63, Wis. Stats.

3 TMDL Development

Section 3 addresses topics associated with the development of TMDLs, as they relate to the implementation of TMDL requirements in WPDES permits. This section is not intended to be a comprehensive guide to TMDL development. (More comprehensive guidance on that subject is being developed elsewhere.) Subjects such as methods for determining wasteload allocations and expressing them in the TMDL are covered here.

3.1 The "Daily" in Total Maximum Daily Load

All allocations (load and wasteload allocations) must be expressed in the TMDL in terms of daily time increments, because of a federal court decision[1]. If consistent with the applicable water quality standard (WQS), allocations may also be expressed as minimum, maximum, or average daily loads. For example, a TMDL for pH may include both minimum and maximum values, which is consistent with how the applicable WQS for the parameter pH is expressed (commonly as a range). Further, allocations may be expressed in terms of differing maximum daily values depending on the season of the year, stream flow (e.g., wet vs. dry weather conditions) or other factors. In certain circumstances, or where the applicable water quality criteria are expressed as a long-term average, it may be appropriate for the TMDL to also include WLAs expressed as weekly, monthly, seasonal, annual, or other appropriate time increments.

[1] "*Establishing TMDL "Daily" Loads in Light of the Decision by the US Court of Appeals for the D.C. Circuit in Friends of the Earth, Inc. vs.USEPA, et al., No. 05-5015, April 25, 2006, and Implications for NPDES Permits.*" USEPA Memo, Benjamin H. Grumbles, Assistant Administrator, November 15, 2006.

3.2 Determining Allocations for a TMDL

Allocations are based on water quality standards and appropriate flow conditions determined for that waterbody or watershed. If numeric water quality standards do not exist for the pollutant of concern, water quality targets may be based on other existing standards or narrative standards. Water Evaluation Section staff will work with contractors or identified project managers to select allocation methods from those identified by USEPA in the development of draft TMDLs. The chosen procedures should be shared with DNR program staff and technical teams internally and externally, as appropriate.

3.3 Methods Available for Developing WLAs

Methods used for deriving WLAs in TMDLs depend on the scale of the project, size of the watershed, number of permitted entities, and other factors. USEPA's *Technical Support Document for Water Quality-based Toxics Control* (EPA/505/2-90-001, 3/91; http://www.epa.gov/npdes/pubs/owm0264.pdf) lists 19 different allocation schemes for developing WLAs. However, a proportional allocation method is the most popular and, in the absence of detailed cost data, the most equitable method. A proportional allocation method sets allocations proportional to a baseline load. For example, the baseline load for a WPDES permittee could be the current discharge load or permitted discharge load of the pollutant addressed by the TMDL.

3.4 Interim Wasteload Allocations

Interim wasteload allocations are not allowed in a TMDL. TMDLs have to be written to meet water quality standards. Therefore, the WLA and LA must reflect what is needed to meet the water quality standards addressed by the TMDL.

3.5 TMDL Development & Permitting Workload

In the future, selection of TMDL projects may be based on permitting needs., Currently, however, selection of TMDLs are determined by the amount of data, local interest, and resources available for a particular water body or watershed. If a permittee would like to discharge or increase discharge to an impaired water, a TMDL is needed for the pollutant of concern and the facility must meet the requirements of the TMDL to be allowed to discharge.

4 TMDL-WPDES Implementation

Section 4 addresses topics related to TMDL implementation in WPDES permits. Subjects such as expressing WLAs as permit limits, compliance schedules, variances & adjudications, and others are covered.

4.1 WPDES Permits Must Be Consistent With The TMDL

All WPDES permits must be consistent with point source wasteload allocations (WLAs) included in state and USEPA approved TMDLs . The Department may modify a permit to include TMDL-derived limits or include TMDL-derived limits when the permit is reissued. Department staff should consult the amended Areawide Water Quality Management Plan (AWQMP) and the TMDL implementation plan to determine which permit action is appropriate. Once a TMDL has been approved, however, effluent limits or other requirements consistent with the TMDL must be included in the permits of those point sources addressed by the TMDL.

Alternatively, different permit alternatives (e.g., watershed permitting) could be considered for TMDL implementation. The Department is considering separate guidance for alternate permitting approaches.

4.2 General Permits, Impaired Waters & TMDLs

Since general permits cover facilities in watersheds across the state, there needs to be permit language that requires facilities to implement measures consistent with TMDLs. Proposed permit and fact sheet language is shown below, which can be be used in some general permits written for traditional wastewater discharges (not stormwater or CAFO). Permits staff may choose to modify this language, if the standard language below does not seem to apply to certain general permitting situations (e.g., in the case of the pit trench/dewatering general permit, most discharges occur for less than one year) or where the TMDL specifies individual wasteload allocations for general permit holders. More examples of permit language that addresses impaired waters and TMDLs can also be found in recently reissued general permits.

Proposed Permit Language

1.1 Impaired Waters & TMDL Requirements for Surface Water Discharges

1.1.1 Report Discharge to an Impaired Surface Water. The permittee shall report, on the annual discharge monitoring report**,** whether the facility has a detectable pollutant of concern discharge to an impaired surface water on the 303(d) list or a surface water with a State and USEPA approved Total Daily Maximum Load (TMDL) allocation.

Note: The section 303(d) list of Wisconsin impaired surface water bodies may be obtained by contacting the Department or by searching for the section 303(d) list on the Department's Internet site. The Department updates the section 303(d) list approximately every two years. The updated list is effective upon approval by USEPA. The current section 303(d) list can be found here: http://dnr.wi.gov/topic/impairedwaters/.

1.1.2 TMDL Compliance. Facilities discharging a pollutant of concern under this permit shall meet the requirements of all State and Federally Approved Total Daily Maximum Load (TMDL) allocations for their discharge location that is in effect on the start date of this permit. Existing discharges covered under this permit shall comply with any allocation granted to general permit discharges in any State and USEPA approved TMDLs established for the water body receiving the discharge that is in effect on the start date of this permit.

Note: A "pollutant(s) of concern" means a pollutant that is contributing to the impairment of a water body. State and Federal Approved TMDLs can be identified by contacting the Department, or by searching for the State and Federal Approved TMDL list on the Department Internet site. A list of State and Federal Approved TMDLs in Wisconsin can be found here: http://dnr.wi.gov/topic/tmdls/.

1.1.3 New or Increased pollutant discharge to a 303(d) listed impaired surface water. A permittee may not establish a new wastewater discharge of a pollutant of concern to an impaired water body or significantly increase an existing discharge of a pollutant of concern to an impaired water body unless the new or increased discharge does not contribute to the receiving water impairment, or the discharge is consistent with a State and Federal approved total maximum daily load (TMDL) allocation for the impaired water body. Any new or significantly increased pollutant of concern discharge to an impaired surface water authorized under this general permit shall be consistent with the wasteload allocation for general permittees within the basin.

Proposed Fact Sheet Language

Total Daily Maximum Load (TMDL) Compliance. Facilities discharging under this general permit shall comply with the allocation in any State and Federally Approved Total Daily Maximum Load (TMDL) established for the water body receiving the discharge that is in effect on the start date of this permit.

Note: A "pollutant(s) of concern" means a pollutant that is contributing to the impairment of a water body. State and Federal Approved TMDLs can be identified by contacting the Department, or by searching for the State and Federal Approved TMDL list on the Department Internet site. A list of State and Federal Approved TMDLs in Wisconsin can be found here: http://dnr.wi.gov/topic/tmdls/.

New or Increased Discharges. In general, 40 CFR 122.4, prohibits the issuance of a WPDES permit to a new discharger that will contribute to a violation of a water quality standard in a 303(d) listed water. Also, an increased discharge of a pollutant of concern that would cause or contribute to a violation of a water quality standard in a 303(d) listed water is not to be allowed. Therefore, this general permit specifies that a permittee may not establish a new pollutant of concern discharge to a 303(d) listed impaired water body or significantly increase the discharge of a pollutant of concern to an impaired water body unless the new or increased discharge does not contribute to the receiving water impairment, or the new discharge is consistent with a Department finalized total maximum daily load (TMDL) allocation for the impaired water body. Any new or increased pollutant of concern discharge to an impaired surface water authorized under this general permit shall be consistent with the wasteload allocation for general permittees discharging to an impaired receiving water.

This general permit can not be used if this requirement is not met for a new discharger. For a new operation requesting coverage under this general permit, the Department will evaluate the

proposed new pollutant discharge amount and receiving water to determine if the above requirement can be met. A variety of options may be available to insure any proposed new discharger does not contribute to the receiving water impairment such as on-site capture of the pollutant of concern, an alternate discharge location, wastewater reuse opportunities, directing the discharge to a seepage area, enhanced treatment options so the discharge would meet the water quality standard, etc.

If an existing discharger would propose a significant increase in a pollutant of concern discharge to an impaired water body, evaluation of the proposed increase would begin via notification to the Department of a planned change under standard requirement 5.6 of the permit. Upon notification of the proposed increase, the Department would evaluate the proposed increased pollutant discharge amount and receiving water to determine if the discharge change would be within the wasteload allocation to general permittees discharging to the surface water. If necessary, a variety of options may be available to insure any proposed increased discharge does not contribute to the receiving water impairment such as on-site capture of the pollutant of concern, an alternate discharge location, wastewater reuse opportunities, directing the discharge to a seepage area, enhanced treatment options so the discharge would meet the water quality standard, etc.

Alternate Permit needed to meet TMDL. If the Department notifies a general permit applicant that the pollutant of concern discharge would not meet the requirements of a state and USEPA approved TMDL allocation, the permittee would need to submit an application for a site specific individual WPDES permit or an alternate general permit that specifies the additional pollutant controls necessary to comply with the TMDL. The alternate permit may require the permittee to submit a proposed TMDL implementation plan to the Department. The proposed TMDL implementation plan shall specify feasible additional management practices, pollution prevention activities, and wastewater treatment improvements that can be implemented to meet the wasteload allocation.

Note: The section 303(d) list of Wisconsin impaired surface water bodies may be obtained by contacting the Department or by searching for the section 303(d) list on the Department's Internet site. The Department updates the section 303(d) list approximately every two years. The updated list is effective upon approval by USEPA. The current section 303(d) list can be found here: http://dnr.wi.gov/topic/impairedwaters/.

Recommendations for Discharges to 303(d) Listed Impaired Surface Waters – If a facility discharges a pollutant of concern to an 303(d) listed impaired water body, the permittee is encouraged to minimize the pollutant discharge as part of an overall state effort to reduce the pollutant loading to the water body. Wisconsin water impairments are primarily due to excessive sediment, phosphorus and mercury levels which are normally very low or non-detectable in wastewater discharges.

Since the 303(d) impaired waters list is updated every 2 years, the permittee is encouraged to check in the third year of the permit term whether the permittee discharges wastewater to a section 303(d) listed impaired water body. If so, the permittee is encouraged to evaluate whether additional control measures and practices could be used to voluntarily minimize, with the goal of elimination, the discharge of pollutant(s) of concern that contribute to the impairment of the water body. The permittee should keep a record of the amount of pollutant discharge reduction that has been voluntarily achieved. The exact amount of pollutant reduction needed will be legally established in the State and Federal Approved Total Daily Maximum Load (TMDL) allocation established for the discharge.

4.3 Finding Information About Approved TMDLs

There are four ways to determine if a TMDL has been approved for a particular waterbody:

- DNR web site
- WATERS (Water Assessment, Tracking & Electronic Reporting System)
- WT Webviewer (Intranet Surface Water Data Viewer)
- EPA's Assessment TMDL Tracking and Implementation System (ATTAINS) web site.

Instructions on how to access TMDL information using these sources are included in Appendix A.

WLAs from approved TMDLs can be obtained by downloading the TMDL reports from the DNR web site, WATERS, or USEPA's Assessment TMDL Tracking and Implementation System (ATTAINS) web site. Instructions on how to access WLAs using these data sources are included in Appendix A.

4.4 Finding Information About Impaired Waters

Impaired waters information may be accessed in three ways:
- DNR web site
- WATERS (Water Assessment, Tracking & Electronic Reporting System)
- WT Webviewer (Intranet Surface Water Data Viewer)

Instructions on how to access impaired waters information using these sources are given in Appendix B.

4.5 Finding Information About Implementation of a TMDL

Information pertaining to TMDL implementation may appear in any of 4 locations:
- The TMDL itself,
- NR 217.16 for phosphorus
- The amended AWQMP, or
- The implementation guidance.

Generally, TMDL implementation information will be organized as follows:
- Those issues which require USEPA approval will appear in the TMDL. (Refer to p. 11 for a list of items that USEPA reviews.)
- Additional implementation detail may be included in the amended AWQMP when implementation affects multiple WPDES permits.
- Guidance on implementation issues where the flexibility to adjust to changing conditions and science will be needed should be established in a DNR guidance document (such as this document).

4.6 Expression of TMDL-derived Effluent Limits in WPDES Permits

In general, wasteload allocations (WLAs) specified in approved TMDLs are to be expressed in WPDES permits as water quality-based effluent limits (WQBELs) [40 CFR 122.44 (d)(1)(vii)(B) and s. 283.31(3)(d),

Wis. Stats.]. Limit calculators should include applicable TMDL-derived WQBELs in their recommendation memos for WPDES permit issuance and facility planning. In cases where local conditions are not adequately addressed by a TMDL-derived WQBEL, more stringent limitations based on other WQBEL procedures, such as those for phosphorus in NR 217.13, Wis. Adm. Code, may be included in the permit (see Section 4.7 for more information).

Permit limits must be consistent with the assumptions and requirements of the TMDL, but need not be identical to TMDL WLAs [40 CFR 122.44(d)(1)(vii)(B)]. Typically, TMDL WLAs may not be used directly as permit limits for the reasons explained below.

Section 40 CFR 122.45 (d) specifies that unless impracticable, permit effluent limits must be expressed as weekly and monthly averages for publicly owned treatment works and as daily maximums and monthly averages for all other continuous discharges. A continuous discharge is a discharge which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities (40 CFR 122.2). Expression of TMDL-derived effluent limits for noncontinuous discharges are discussed at the end of this section (see page 30).

For continuous discharges, unless determined to be impracticable, permit limits derived from TMDL WLAs should be expressed as specified by 40 CFR 122.45 (d). Justifications of impracticability may be made case-by-case and included in the permit's fact sheet, or may be made for a category of discharges. As an example of the latter, the Department has successfully demonstrated to USEPA the impracticability of expressing WQBELs for total phosphorus (TP) as specified by 40 CFR 122.45 (d). The following table is taken from the phosphorus limit impracticability demonstration and indicates how WQBELs for TP shall be expressed in WPDES permits.

Table 1. Expression of WQBELs for Total Phosphorus in WPDES Permits

Total Phosphorus WQBEL	Rivers and streams, and impoundments, lakes and reservoirs with average water residence times of less than one year	Impoundments, lakes and reservoirs with average water residence times of greater than or equal to one year
Greater than 0.3 mg/L	Express WQBELs as a monthly average	Express WQBELs as a monthly average
Less than or equal to 0.3 mg/L	With the exceptions addressed below[1,2], express WQBELs as a six-month average (May 1 – Oct 31 and Nov 1 –April 30) and a monthly average limit of 3 times the calculated concentration limit in ss. NR 217.13 and NR 217.14.	With the exceptions addressed below[1,2], express WQBELs as a six-month average (May 1 – Oct 31 and Nov 1 –April 30) or as an annual average, and a monthly average limit of 3 times the calculated concentration limit in ss. NR 217.13 and NR 217.14

[1] Atypical or uncommon situations will be addressed on a case-by-case basis. These include discharges to small inland lakes with water residence times of less than one year where it is possible that a six month averaging period may not be appropriate and a monthly average limit calculated under ss. NR 217.13 and NR 217.14 may instead be necessary.

[2] For approved TMDLs, the expression of limits must be consistent with the assumptions and requirements of the TMDL, but not greater than the periods expressed above.

Different TMDLs express WLAs for point sources differently. For example, the Lower Fox River and Red Cedar TMDLs include WLAs expressed as annual loads, while the Rock River TMDL includes WLAs expressed as monthly loads. The St. Croix TMDL WLAs include a combination of individual and aggregate

WLAs. These TMDLs are used below as examples of how to derive permit effluent limits from WLAs. Other TMDLs which have WLAs expressed as either annual or monthly loads can follow the relvant example for converting WLAs into permit limits.

4.6.1 Lower Fox River TMDL

The Lower Fox River (LFR) TMDL expresses TP and total suspended solids (TSS) WLAs as maximum annual loads (pounds per year) and maximum daily loads (pounds per day). The daily WLA for a point source equals the annual WLA divided by the number of days in the year. The daily WLA is actually an annual average. Since the derivation of daily WLAs from annual WLAs does not take effluent and monitoring variability into consideration, effluent limits set equal to annual and daily WLAs, when the latter is expressed as a daily maximum, are not consistent. That is, if the daily WLA is expressed as a daily maximum effluent limit, the permittee would have to maintain an annual effluent load two to three times less than (more restrictive than) the annual WLA, which is inconsistent with the assumptions and requirements of the TMDL. Therefore, maximum daily TP and TSS WLAs from the Lower Fox River TMDL should not be used directly as permit effluent limits.

Neither should maximum annual TP and TSS WLAs from the LFR TMDL be used directly as permit effluent limits. Such limits would be inconsistent with 40 CFR 122.45 (d) and the phosphorus limit impracticability demonstration as discussed above.

Total Phosphorus Limits

For TP, the impracticability demonstration specifies monthly average permit effluent limits when WLAs equate to a TP effluent concentration greater than 0.3 mg/L, and six-month average limits and monthly average limits equal to 3 times the six-month average limits when WLAs equate to a TP effluent concentration equal to or less than 0.3 mg/L. Use the effluent flow specified by s. NR 217.13 (1)(c), Wis. Adm. Code, and the annual WLA for a point source to determine the equivalent effluent concentration. To calculate monthly average and six-month average permit limits, it is recommended that the limit calculator convert the annual WLA to an annual average and multiply the annual average by the multipliers specified in Table 2 on page 22 and the footnotes and information following the table.

For example, Green Bay Metropolitan's Green Bay Facility has an annual average design flow of 49.2 MGD and a maximum annual WLA of 17,349 pounds TP per year.

TP Equivalent Effluent Concentration = 17,349 lbs/yr ÷ (365 days/yr * 49.2 MGD * 8.34) = 0.12 mg/L

Since the equivalent effluent concentration is less than 0.3 mg/L, a six-month average and monthly average permit limit should be derived from the annual WLA. To do so, divide the annual WLA by 365 days per year and multiply the result by 1.11.

TP 6-Month Average Permit Limit = (17,349 lbs/yr ÷ 365 days/yr) * 1.11 = 52.8 lbs/day

The six-month average effluent limit should be expressed in pounds per day and is applied to the periods of May 1 through October 31 and November 1 through April 30. A monthly average effluent limit of three times the six-month average effluent limit, or 158 pounds TP per day, should accompany the six-month average effluent limit in the permit.

The multiplier of 1.11 used above was taken from Table 2 on page 22. The effluent monitoring frequency that will be required when the TMDL-derived permit limit is in effect should be used to select the multiplier. A monitoring frequency for TP of daily is specified in the Green Bay Facility's current WPDES permit and is not anticipated to change when the TMDL-derived TP permit limit becomes effective. Therefore, daily monitoring is used to select the multiplier.

To derive permit limits from TMDL WLAs, an estimate of the coefficient of variation (CV) for the regulated parameter or pollutant once the permittee complies with the limit is necessary. If information on the future effluent variability is available, base the CV on that information. For example, when the variability of measurements of the regulated parameter or pollutant in the effluent is not likely to change once the permittee complies with the limit, current effluent data may be used to estimate the CV. Lacking information on future effluent variability, the default CV of 0.6 should be used. It is recommended that the following formula be used to calculate the CV for each effluent parameter:

CV = standard deviation of mass effluent data ÷ mean of mass effluent data

Use only those effluent sample results greater than the limit of detection when calculating the CV. If effluent monitoring has been performed for less than one year or there are fewer than 24 effluent sample results greater than the limit of detection, assume a CV of 0.6.

To calculate permit limits using a CV other than 0.6, use the equations provided in Table 5-2 of USEPA's TSD. An Excel spreadsheet is also available to derive multipliers for CVs other than 0.6.

As noted above, the CV anticipated to be present when the TMDL-derived TP permit limit is being met should be used to select the multiplier. The CV for the Green Bay Facility's TP discharge currently equals approximately 0.8, but should not be used to select the multiplier. The Department anticipates that the addition of wastewater treatment to achieve the TMDL-derived permit limit will reduce effluent variability with respect to TP. While the Department anticipates that the CV will decrease, it does not have a good estimate of the future CV and, therefore, the default CV of 0.6 is used to select the multiplier. Note that the multiplier from Table 2 for a 6-month average limit with daily monitoring equals 1.11, as used in the above example.

For a second example, the Sherwood Wastewater Treatment Facility has an annual average design flow of 0.259 MGD and a maximum annual WLA of 295 pounds TP per year.

TP Equivalent Effluent Concentration = 295 lbs/yr ÷ (365 days/yr *0.259 MGD *8.34) = 0.37 mg/L

Since the equivalent effluent concentration is greater than 0.3 mg/L, the WLA should be expressed as a monthly average effluent limit as specified in the phosphorus limits impracticability demonstration. To calculate a monthly average effluent limit for TP, first divide the annual WLA by 365 days per year and then multiply the result by 1.59. Express the monthly average limit in pounds per day.

TP Monthly Average Permit Limit = (295 lbs/yr ÷ 365 days/yr) * 1.59 = 1.29 lbs/day

The multiplier of 1.59 was taken from the Table 2 on page 22. The CV of the Sherwood Wastewater Treatment Facility's mass discharge of TP is approximately 1.0, but is anticipated to decrease with the addition of wastewater treatment necessary to meet the TMDL-derived permit limit. Lacking a better estimate of the future CV, the default CV of 0.6 is used to select the multiplier.

A TP monitoring frequency of twice weekly is specified in the Sherwood Wastewater Treatment Facility's current WPDES permit and is not anticipated to change when the TP permit limit becomes effective. Therefore, twice weekly monitoring is used to select the multiplier to calculate the monthly average permit limit.

Total Suspended Solids Limits

Since the Department has not demonstrated that the application of 40 CFR 122.45 (d) is impracticable with respect to TSS permit effluent limits, limits for TSS should be expressed in permits as weekly and monthly averages for publicly owned treatment works and as daily maximums and monthly averages for all other point sources.

To calculate monthly average, weekly average, and daily maximum TSS limits for dischargers covered by the LFR TMDL, first divide the maximum annual WLA by 365 days per year and then multiply the result by the appropriate multiplier from the Table 2, on page 22. Express all limits in pounds per day.

For example, the Green Bay Metropolitan's Green Bay Facility has an annual WLA of 354,861 pounds TSS per year, a CV for the mass discharge of TSS equal to 0.5, and a permit-required monitoring frequency of daily for TSS.

TSS Monthly Average Permit Limit = (354,861 lbs/yr ÷ 365 days/yr) * 1.23 = 1,196 lbs/day

TSS Weekly Average Permit Limit = (354,861 lbs/yr ÷ 365 days/yr) * 1.52 = 1,478 lbs/day

The current monitoring frequency and CV were used to select the multipliers used above. The daily monitoring frequency is not likely to change once the TMDL-derived permit limits are in effective. Similarly, the current CV of 0.5 is not likely to increase when treatment is provided to reduce the discharge of either TP or TSS. Lacking a better estimate of the CV once the TMDL-derived permit limits are in effect, the current value is used. The equations provided in Table 5-2 of USEPA's TSD were used to calculate the multipliers. Note that should the Green Bay Metropolitan Sewerage District demonstrate that the CV will change when additional treatment for either TP or TSS is provided, TSS limits may be recalculated.

For a second example, the Georgia-Pacific, Day Street Mill has an annual WLA of 105,698 pounds TSS per year, a CV for the mass discharge of TSS equal to 0.6, and a permit-required monitoring frequency for TSS of five times per week.

TSS Monthly Average Permit Limit = (105,698 lbs/yr ÷ 365 days/yr) * 1.35 = 391 lbs/day

TSS daily Maximum Permit Limit = (105,698 lbs/yr ÷ 365 days/yr) * 3.11 = 901 lbs/day

The current monitoring frequency and CV were used to derive the multipliers used above. While a monitoring frequency of daily should be considered when the permit is reissued, the monitoring frequency is not changed for this example. The current CV of 0.6 equals the default CV of 0.6. An estimate of the CV once TMDL-derived permit limits are in effect is not available. The multipliers are taken from Table 2, on page 22.

The above guidance for expressing LFR TMDL WLAs as permit limits is based on USEPA's statistical method for deriving water quality-based effluent limits as presented in 5.4 and 5.5 of the *Technical*

Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001). Other methods may be used, if deemed appropriate by the Department. Staff should contact the Point Source TMDL Implementation Coordinator (Kari Fleming: kari.fleming@wisconsin.gov) when discussing other approaches.

USEPA's statistical method for permit limit derivation is summarized below in a table of WLA multipliers. Select the appropriate multiplier from the following table using the effluent monitoring frequency for the regulated pollutant that will be in effect once the permit limit for the pollutant becomes effective.

Table 2. Multipliers for Permit Effluent Limits Derived from Annual WLAs Using a Coefficient of Variation (CV) of 0.6

Effluent Monitoring Frequency	6-Month Average Permit Limits	Monthly Average Permit Limits	Weekly Average Permit Limits	Daily Maximum Permit Limits
Daily	1.11	1.28	1.64	3.11
6 Times per Week	1.12	1.32	1.70	3.11
5 Times per Week	1.13	1.35	1.78	3.11
4 Times per Week	1.14	1.40	1.90	3.11
3 Times per Week	1.17	1.47	2.07	3.11
Twice per Week	1.21	1.59	2.37	3.11
Weekly or Less	1.30	1.90	3.11	3.11

Assumptions used in the derivation of the multipliers in the above table include use of the log-normal distribution, equating the long-term average equal to the maximum annual WLA divided by the number of days in the year, a coefficient of variation (CV) of 0.6, and a 99th percentile level (0.01 probability basis). For the Lower Fox TMDL, annual WLAs are calculated from a five-year average of effluent flow for each point source (2003 through 2007), which makes the annual WLA divided by the number of days in a year a good estimate of the long-term average.

EPA's TSD recommends that permit limits be derived using an effluent monitoring frequency of no less than four times per month. Consequently, the above table does not provide multipliers for monitoring frequencies less than weekly. If the permit-required monitoring frequency once the TMDL-derived permit limit is in effect is less than weekly, a multiplier for weekly monitoring should be used to derive the permit limit.

Reducing the monitoring frequency to produce a less restrictive permit effluent limit is discouraged. Monitoring should not be reduced to a frequency less than that specified in the Department's February 2003 draft guidance (W:\TMDL_Implementation\Guidance\WPDES_Guidance\Monitoring Freq.pdf). Apply the 2003 guidance to both municipal and industrial permits. USEPA's guidance for reducing monitoring frequencies may be used to determine whether a monitoring frequency reduction is appropriate (http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/upload/Interim-Guidance-for-Performance-Based-Reductions-of-NPDES-Permit-Monitoring-Frequencies.pdf), but reductions should remain within Department guidance.

Although LFR TMDL limits for TSS aren't being expressed as annual limits in the permits, it is recommended that permits require permittees to calculate and report rolling 12-month sums of total monthly loads for TP and TSS. Total monthly loads should be calculated by multiplying the monthly average discharge concentration (mg/L) by the total flow for the month (MG/month) and by the conversion factor of 8.34. Sum the total monthly loads from the most recent twelve months. Rolling 12-month sums may be compared directly to the annual WLA.

During each permit reissuance process subsequent to the effective date of the TMDL-derived permit limit, limit calculators should evaluate whether or not the annual WLA is being achieved. For example, review the rolling 12-month sums reported by the permittee and compare them to the annual WLA. If the annual WLA is not being met, the limits calculator should consider recalculating permit limits in order to make them more restrictive. Calculating a coefficient of variation from effluent data collected following the effective date of the TMDL-derived permit limit, increasing the monitoring frequency, or using a different probability basis should be considered.

4.6.2 Rock River TMDL

The Rock River TMDL (RR TMDL) expresses TP and TSS WLAs as maximum monthly loads in pounds per month for each calendar month and maximum daily loads in pounds per day for each calendar month. The phosphorus limit impracticability demonstration suggests that permit effluent limits for TP should be expressed as monthly average effluent limits when WLAs equate to a TP effluent concentration greater than 0.3 mg/L, and as 6-month average limits and monthly average limits equal to 3 times the 6-month average limits when WLAs equate to a TP effluent concentration equal to or less than 0.3 mg/L. However, the agreement also recommends that the expression of limits must be consistent with the assumptions and requirements of the RR TMDL. Since the RR TMDL expresses TP WLAs as a monthly load for each month of the year, monthly phosphorus limits should be included in permits. Converting monthly WLAs to six-month average permit limits, however, is inconsistent with the assumptions and requirements of the TMDL. Therefore, TP permit limits derived from RR TMDL WLAs for point sources should be expressed only as monthly average limits.

To convert a maximum monthly WLA for phosphorus to a monthly average permit limit, simply divide the WLA by the number of days in the month and express the resulting limit in units of pounds per day. Repeat the calculation for each month of the year since the RR TMDL provides a different WLA for each month.

For example, the August TP WLA for the Edgerton Wastewater Treatment equals 76.27 pounds per month. The August permit limit is calculated below. Remember that monthly average permit limits must be calculated for all twelve months.

TP Monthly Average Permit Limit for August = (76.27 lbs/Aug. ÷ 31 days/Aug.) = 2.46 lbs/day

No exceptions to the above procedures are recommended when the permit contains concentration limits for TP based on s. NR 217.13 and mass limits for TP based on RR TMDL WLAs. Concentration limits must comply with ch. NR 217 and the phosphorus limit impracticability demonstration. Mass limits from the TMDL should follow the above guidance.

Since the Department has not demonstrated that weekly and monthly average limits are impracticable with respect to TSS, effluent limits for TSS should be expressed in permits as weekly and monthly

averages for publicly owned treatment works and as daily maximums and monthly averages for all other point sources.

To derive a monthly average TSS permit limit from a monthly WLA, divide the TSS WLA by the number of days in the month and multiply the result by 2,000 pounds per ton to convert the WLA from tons per day to pounds per day. Express the monthly average effluent limit in units of pounds per day. Repeat the calculation for each month of the year since the Rock River TMDL provides a different WLA for each month.

When a daily maximum TSS effluent limit is necessary, the daily WLA from the RR TMDL is used as the permit limit, after converting from tons per day to pounds per day. An attempt was made in the RR TMDL to make monthly and daily WLAs consistent with respect to effluent and monitoring variability using USEPA's statistical method. That is, meeting either limit should result in compliance with the other, and neither limit is more restrictive than the other.

When a weekly average permit effluent limit is required for TSS, the limit is derived from the RR TMDL monthly WLA and the appropriate multiplier from Table 3, on page 25. For example, the January TSS WLA for the Arlington Wastewater Treatment Facility equals 0.29 tons. Arlington's permit requires TSS monitoring twice weekly and the current coefficient of variation (CV) of Arlington's mass discharge of TSS is approximately 1.2. The January monthly average permit limit is calculated below.

TSS Monthly Average Permit Limit for January =

(0.29 tons/Jan. * 2,000 lbs/ton) ÷ 31 days/Jan. = 19 lbs/day

To derive a weekly average TSS permit limit, multiply the monthly average TSS effluent limit as calculated above by 1.48, the multiplier specified by Table 3, on page 25, for twice weekly monitoring, and express the limit in units of pounds per day. Repeat the calculation for each month of the year.

For example, using Arlington's January TSS monthly average permit limit of 19 lbs/day as calculated above, the weekly average permit limit for January is calculated below.

TSS Weekly Average Permit Limit for January = 19 lbs/day * 1.48 = 28 lbs/day

The effluent monitoring frequency that will be required when the TMDL-derived TSS permit limit is in effect should be used to select the multiplier. While a more frequent monitoring frequency should be considered when the permit is reissued with TMDL-derived TSS limits, the monitoring frequency is not changed for this example. That is, the multiplier in the above calculation was selected using a monitoring frequency of twice weekly.

The CV anticipated to be present when the TMDL-derived TSS permit limit is being met should be used to select the multiplier. Arlington's current CV of 1.2 should not be used to select the multiplier. The Department anticipates that the addition of treatment to achieve the TMDL-derived permit limit for TP or TSS will reduce effluent variability with respect to TSS. While the Department anticipates that the CV for TSS will decrease, it does not have a good estimate of the future CV and, therefore, the default CV of 0.6 is used to select the multiplier.

For a second example, the May TSS WLA for Grande Cheese in Brownsville equals 0.97 tons per month. Grande's current permit requires TSS monitoring twice per week. Grande's monthly average and daily maximum TSS permit limits for May are calculated below.

TSS Monthly Average Permit Limit for May =
(0.97 tons/May. * 2,000 lbs/ton) ÷ 31 days/May = 63 lbs/day

TSS Daily Maximum Permit Limit for May =
0.07 tons/day * 2,000 lbs/ton = 140 lbs/day

EPA's statistical method for deriving water quality-based effluent limits as presented in 5.4 and 5.5 of the *Technical Support Document for Water Quality-based Toxics Control* (EPA/505/2-90-001) should be used to convert RR TMDL WLAs for TSS to weekly average permit limits. In this guidance,USEPA's statistical method for permit limit derivation from monthly WLAs is summarized in the following table of multipliers. Select the appropriate multiplier from the following table using the effluent monitoring frequency for TSS that will be in effect once the TMDL-derived TSS permit limit becomes effective. A default CV of 0.6 was used to construct the table since the TSS CV that will occur during compliance with TMDL-derived TSS permit limits will not be known in most cases. Multiply the TMDL-derived monthly average limit times the multiplier from the table to calculate week average and daily maximum permit limits.

Table 3. Multipliers for Permit Effluent Limits Derived from Monthly WLAs Using a Coefficient of Variation (CV) of 0.6

Effluent Monitoring Frequency	Weekly Average Permit Limits
Daily	1.28
6 Times per Week	1.29
5 Times per Week	1.32
4 Times per Week	1.36
3 Times per Week	1.41
Twice per Week	1.48
Weekly or Less	1.64

Assumptions used in the derivation of the multipliers in the above table include use of the log-normal distribution, a coefficient of variation (CV) of 0.6, and a 99^{th} percentile level (0.01 probability basis).

To derive weekly TSS permit limits from TMDL monthly WLAs, an estimate of the CV for the regulated parameter or pollutant once the permittee complies with the limit is necessary. If information on future effluent variability is available, base the CV on that information. For example, if the variability of measurements of the regulated parameter or pollutant in the effluent is not likely to change once the permittee complies with the limit, current effluent data may be used to estimate the CV. Lacking

information on future effluent variability, the default CV of 0.6 should be used. Use the following formula to calculate the CV:

CV = standard deviation of mass effluent data ÷ mean of mass effluent data

Use only those effluent sample results greater than the limit of detection when calculating the CV. If effluent monitoring has been performed for less than one year or there are fewer than 24 effluent sample results greater than the limit of detection, assume a CV of 0.6.

To calculate multipliers using a CV other than 0.6, use the equations provided in Table 5-3 of USEPA's TSD. An Excel spreadsheet is also available to perform the calculations.

In the TSD,USEPA recommends that permit limits should be derived using an effluent monitoring frequency of no less than four times per month. Consequently, the above table does not provide multipliers for monitoring frequencies less than weekly.

Reducing the monitoring frequency to produce a less restrictive permit effluent limit is discouraged. Monitoring should not be reduced to a frequency less than that specified in the DNR's February 2003 draft guidance (W:\TMDL_Implementation\Guidance\WPDES_Guidance\Monitoring Freq.pdf). Apply the 2003 guidance to both municipal and industrial permits. USEPA's guidance for reducing monitoring frequencies may be used to determine whether a monitoring frequency reduction is appropriate (http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/upload/Interim-Guidance-for-Performance-Based-Reductions-of-NPDES-Permit-Monitoring-Frequencies.pdf), but reductions should remain within Department guidance.

4.6.3 Lake St. Croix TMDL

The Lake St. Croix TMDL was prepared in partnership with the Minnesota Pollution Control Agency, St. Croix Basin Water Resources Planning Team, and Wisconsin Department of Natural Resources. USEPA approved the TMDL on August 8, 2012. A copy of the final TMDL report is available at http://www.pca.state.mn.us/index.php/view-document.html?gid=18417 .

The Lake St. Croix TMDL establishes TP WLAs to meet an in-lake water quality standard of 40 µg/L. The WLAs do not address WQS for tributaries to Lake St. Croix, however. Therefore, in addition to implementing the TMDL, limit calculators should evaluate the need for TP WQBELs to protect the immediate receiving water for discharges to a tributary of Lake St. Croix.

The Lake St. Croix TMDL establishes WLAs for 12 point sources in Wisconsin (see Table 4 on page 27) and an aggregate loading cap for 12 additional Wisconsin point sources (see Table 5 on page 28). The TMDL states that point sources covered by the aggregate loading cap will be deemed in compliance as long as the sum of effluent loads from all 12 point sources remains under the aggregate load cap. According to the TMDL's implementation recommendations, when the total loading from all 12 point sources equals or exceeds 85 percent of the aggregate loading cap, permittees exceeding their individual share of the aggregate loading cap should receive individual WLAs.

Initially, individual WLAs will not be included in the permits of those facilities covered by the TMDL's aggregate loading cap. However, the first permit reissuance after August 8, 2012 should contain requirements for monitoring effluent TP and calculating and reporting monthly TP loads and 12-month

rolling sums of monthly TP loads. Monthly loads are calculated using the monthly average TP concentration and the total flow for the month.

Reissued permits for those facilities covered by the TMDL's aggregate loading cap should also include the following reopener clause, which uses the Village of Clayton as an example:

> *The Village of Clayton is included in a group of permitted facilities subject to an aggregate phosphorus wasteload allocation of 6932 pounds per year (3151 kg/year) under the Lake St. Croix Total Maximum Daily Load (TMDL) report. Compliance with the wasteload allocation is required upon reissuance. The Village will be considered in compliance with its Lake St. Croix TMDL allocation if the phosphorus discharged from the facility is less than the permittee's individual allocation (528 pounds per year (240 kg/year)) OR the total annual loading from all permittees in the aggregate category is less than the aggregate allocation. For example, if the Village exceeds its individual allocation but the aggregate allocation is not exceeded, the Village is still in compliance with this permit.*

The Department will total 12-month rolling sums from all 12 facilities covered by the aggregate loading cap. Should the total of 12-month sums exceed 5,904 lbs (i.e., 85 percent of 3,151 kg/yr from Table 5 on page 28), the Department will modify or reissue the permits of those permittees exceeding their individual share of the aggregate loading cap to include TMDL-derived permit limits. (See the guidance below for converting WLAs to permit limits.) After permit modification or reissuance to include individual WLAs, the Department will reduce the aggregate loading cap by an amount equal to the sum of WLAs included in the modified or reissued permits, and continue to track the total of 12-month rolling sums from the remaining permittees covered by the aggregate loading cap.

Table 4. Lake St. Croix TMDL WLAs for Point Sources

Facility	Permit Number	Concentration Assumption (mg/L)	Design Flow (MGD)	WLA (kg/yr)	WLA (lbs/day)
Hudson WWTF	0024279	0.6	3.25	2,694	16.3
River Falls WWTP	0029394	0.6	3.17	2,628	15.9
New Richmond WWTF	0021245	0.6	1.73	1,434	8.7
Osceola, Village of	0025020	1.0	0.750	1,036	6.3
Amery, City of	0020125	1.0	0.535	739	4.5
St. Croix Falls, City of	0020796	1.0	0.496	685	4.1
Hammond	0024171	1.0	0.450	622	3.8
Clear Lake, Village of	0023639	1.0	0.404	558	3.4
Grantsburg, Village of	0060429	1.0	0.380	525	3.2
Somerset WWTF	0030252	1.0	0.375	518	3.1
Luck, Village of	0021482	1.0	0.364	503	3.0
Burnett Dairy Cooperative	0039039	1.0	0.250	345	2.1

Table 5. Facilities Eligible for Lake St. Croix TMDL Aggregate Loading Cap

Facility	Permit Number	Concentration Assumption (mg/L)	Design Flow (MGD)	WLA (kg/yr)	WLA (lbs/day)
Frederic	0029254	3.5	0.185	895	5.4
Star Prairie WWTF	0060984	3.5	0.154	745	4.5
T. Thompson Hatchery	0049191	0.1	2.208	305	1.8
Deer Park WWTF	0025356	3.5	0.051	247	1.5
WI DNR Osceola Fish Hatchery	0004197	0.1	1.77	245	1.5
Clayton, Village of	0036706	2.0	0.087	240	8.7*
Webster, Village of	0028843	2.0	0.085	235	8.5*
Amani Sanitary District	0031861	2.0	0.032	88	3.2*
Advanced Food Products	0039781	0.1	0.401	55	0.3
W DNR St. Croix Falls Hatchery	0004201	0.1	0.344	48	0.3
Lakeside Foods, INC.	0002836	0.1	0.316	44	0.3
Emerald Dairy	0059315	Load estimate		4	0.02
			Aggregate Loading Cap	3,151	18.9

*WLAs for these intermittent dischargers are 6 times greater than WLAs for a continuous discharger. Consequently, the median number of days per year these facilities may discharge TP at a rate equal to the total daily WLA is 61 days.

The Lake St. Croix TMDL expresses WLAs for TP as maximum annual loads (kilograms per year) and maximum daily loads (pounds per day), which equal the maximum annual loads divided by the number of days in the year. Total phosphorus WQBELs for point sources covered by the Lake St. Croix TMDL should be derived in the same manner as permit limits for point sources covered by the Lower Fox River TMDL. That is, consistent with the WI/USEPA impracticability demonstration, limits should be expressed as a monthly average when WLAs equate to a TP effluent concentration greater than 0.3 mg/L, and as a six-month average and monthly average equal to 3 times the six-month average limit when WLAs equate to a TP effluent concentration equal to or less than 0.3 mg/L.

To calculate monthly average and six-month average permit limits, multiply the daily WLA from the Lake St. Croix TMDL by the multipliers specified in Table 2 on page 22 and the footnotes and information following the table. Compare the concentration assumption for the point source, as provided by the Lake St. Croix TMDL and presented in Table 4, on page 27, to 0.3 mg/L to determine the appropriate form of the limits.

For example, Table 4 provides a concentration assumption of 0.6 mg/L and a daily WLA of 16.3 lbs/day for the Hudson WWTF. Hudson's current permit requires TP effluent monitoring 5 times per week. The coefficient of variation (CV) for TP effluent data (lbs/day) collected by Hudson during the period from January 1, 2009 through July 31, 2012 equals 0.69.

Since the concentration assumption exceeds 0.3 mg/L, only a monthly average permit limit is calculated. Lacking an estimate of the CV for the period when Hudson complies with the TMDL-derived permit limit, the default CV of 0.6 is used to select the multiplier. To calculate a monthly average effluent limit for TP, multiply Hudson's daily WLA of 16.3 lbs/day by 1.35. (Remember that the daily WLA is the Annual WLA divided by the number of days in the year.) Express the monthly average limit in pounds per day. That is,

TP Monthly Average Permit Limit = 16.3lbs/day * 1.35 = 22.0 lbs/day

For a second example, assume that the total load for all 12 permittees eligible for the aggregate loading cap exceeds 5,904 lbs/year and that Star Prairie WWTF's TP load exceeds the facility's WLA of 745 kg/yr. Table 5 (page 28) provides a concentration assumption of 3.5 mg/L and a daily WLA of 4.5 lbs/day. The current permit requires monthly TP effluent monitoring. The CV for TP effluent data (lbs/day) collected by Star Prairie during 2010 equals 0.78.

Since the concentration assumption exceeds 0.3 mg/L, only a monthly average permit limit is calculated. Lacking an estimate of the CV for the period when Star Prairie complies with the TMDL-derived permit limit, the default CV of 0.6 is used to select the multiplier. To calculate a monthly average effluent limit for TP, multiply Star Prairie's daily WLA of 4.5 lbs/day by 1.90. Express the monthly average limit in pounds per day. That is,

TP Monthly Average Permit Limit = 4.5 lbs/day * 1.90 = 8.55 lbs/day

Since WLAs are expressed as annual loads (kg/yr), permits with TMDL-derived monthly average permit limits should require the permittee to calculate and report rolling 12-month sums of total monthly loads for TP. Total monthly loads should be calculated by multiplying the monthly average discharge concentration (mg/L) by the total flow for the month (MG/month) and by the conversion factor of 8.34. Sum the total monthly loads from the most recent twelve months. Rolling 12-month sums may be compared directly to the annual WLA.

During the permit reissuance process subsequent to the effective date of the TMDL-derived permit limit, limits calculators should evaluate whether or not the annual WLA is being achieved. For example, review the rolling 12-month sums reported by the permittee. If the annual WLA is not being met, the limits calculator should consider recalculating permit limits. Calculating a CV from effluent data collected following the effective date of the TMDL-derived permit limit, increasing the monitoring frequency, or using a probability basis of 95 percent should be considered.

Should TMDL-derived permit limits for any of the three intermittent discharges listed in Table 5 (page 28)become necessary, follow the instructions provided on page 30 for noncontinuous discharges.

4.6.4 Tainter Lake and Lake Menomin (Red Cedar River) TMDL

USEPA approved the Tainter Lake/Lake Menomin TMDL in Sept 2012. The TMDL report is located at: http://basineducation.uwex.edu/lowerchip/redcedar/pdf/TainterLake_and_LakeMenominPhosphorus_TMDLsJuly12Draft.pdf.

The Tainter Lake and Lake Menomin (TL/LM) TMDL establishes TP WLAs to reduce the loading to the Lakes by 65 percent. The WLAs do not address water quality standards for tributaries to the Lakes including the Red Cedar River. Therefore, in addition to implementing the TMDL, limit calculators must evaluate the need for TP WQBELs to protect immediate receiving waters.

The TL/LM TMDL expresses WLAs for TP as maximum annual loads (pounds per year) and maximum daily loads (pounds per day), which equal the maximum annual loads divided by the number of days in the year. total phosphorus WQBELs for point sources covered by the TL/LM TMDL should be derived in the same manner as permit limits for point sources covered by the Lower Fox River TMDL. That is, consistent with the WI/USEPA impracticability demonstration, TP limits should be expressed as a

monthly average since the TL/LM TMDL WLAs are derived on an effluent concentration of 1 mg/L or greater.

To calculate monthly average permit limits, multiply the daily WLA from the TL/LM TMDL by the multipliers specified in Table 2 on page 22 and the footnotes and information following the table (Remember that the daily WLA equals the annual WLA divided by the number of days in the year.)

For example, the daily WLA for the Boyceville WWTF equals 1.83 lbs/day. Boyceville's current permit requires weekly TP effluent monitoring. The CV for TP effluent data (lbs/day) collected by Boyceville during the period from October 1, 2009 through September 30, 2012 equals 0.45.

On the assumption that Boyceville is currently complying with the TMDL-derived permit effluent limit, the current CV is used to select the multiplier. The monthly average effluent limit for TP equals Boyceville's daily WLA of 1.83 lbs/day multiplied by 1.64. This multiplier was derived using the spreadsheet for calculating multipliers with CV's other than 0.6. Express the monthly average limit in pounds per day. That is,

TP Monthly Average Permit Limit in lbs/day = 1.83lbs/day * 1.64 = 3.00 lbs/day

Since the 4-day P_{99} of Boyceville's TP discharge equals 1.72 lbs/day, which is less than the TMDL-derived limit of 3.00 lbs/day, the assumption that Boyceville is complying with the WLA-derive effluent limit is correct and use of a CV of 0.45 is appropriate.

Since WLAs are expressed as annual loads (lbs/yr), permits should require permittees to calculate and report rolling 12-month sums of total monthly loads for TP. Total monthly loads should be calculated by multiplying the monthly average discharge concentration (mg/L) by the total flow for the month (MG/month) and by the conversion factor of 8.34. Sum the total monthly loads from the most recent twelve months. Rolling 12-month sums may be compared directly to the annual WLA.

During the permit reissuance process subsequent to the effective date of the TMDL-derived permit limit, limits calculators should evaluate whether or not the annual WLA is being achieved. For example, review the rolling 12-month sums reported by the permittee. If the annual WLA is not being met, the limits calculator should consider recalculating permit limits. Calculating a CV from effluent data collected following the effective date of the TMDL-derived permit limit, increasing the monitoring frequency, or using a probability basis of 95 percent should be considered.

4.6.5 Noncontinuous Discharges

Non-continuous discharges are discharges which do not meet the definition of a continuous discharge expressed above on page 18. Methods for converting TMDL WLAs to permit effluent limits for non-continuous discharges should be determined on a case-by-case basis. In practice the most common types of non-continuous discharges that will be encountered fall into these basic categories:

1. Discharges from stabilization ponds and cannery operations which routinely discharge during a limited period of the year.
2. Discharges from industries where interrupted production on weekends results routinely in no discharge for one or two days per week.
3. Discharges from municipal lagoon systems where effluent is held for short periods of time (usually 1-2 months) to avoid non-compliance with BOD_5 or NH_3 limitations.

4. Discharges where market forces dictate whether production occurs (e.g. dairies may choose to landspread whey rather than processing it further).

In all cases the most practical manner of expressing TMDL based limits would be in terms of total mass per reporting period which is consistent with 40 CFR 122.45 (e). For those TMDLs where the WLAs are given on a monthly basis, those would be directly translated into the permit as monthly total mass limits.

For those TMDLs where the WLAs are given on an annual basis, there should be flexibility in determining whether it is practical to have monthly limits in addition to annual limits. For example, facilities where discharge does not occur on weekends but occurs routinely throughout the year, the statistical methods outlined earlier for continuous discharges could be used to translate the annual WLA into a monthly limit. This method could also be considered for seasonal discharges such as can cooling waters where once seasonal production starts, effluent flow rates are continuous until shutdown.

For controlled discharges and other discharges where there is no valid statistical basis for transforming annual WLAs into shorter term limits, limits should be expressed as total annual discharge. Using shorter term limits would have the effect of unduly limiting operational flexibility, and since TMDLs are required to be protective of critical conditions, an annual discharge limit would be consistent with the TMDL and protective of water quality. In the case of phosphorus, if there are local conditions that are not adequately addressed with the WLA-based limit, more stringent limitations based on the procedures in NR 217.13 should be included in the permit.

4.7 Relationship of TMDL-derived Limits, other WQBELs, and Technology-based Effluent Limits

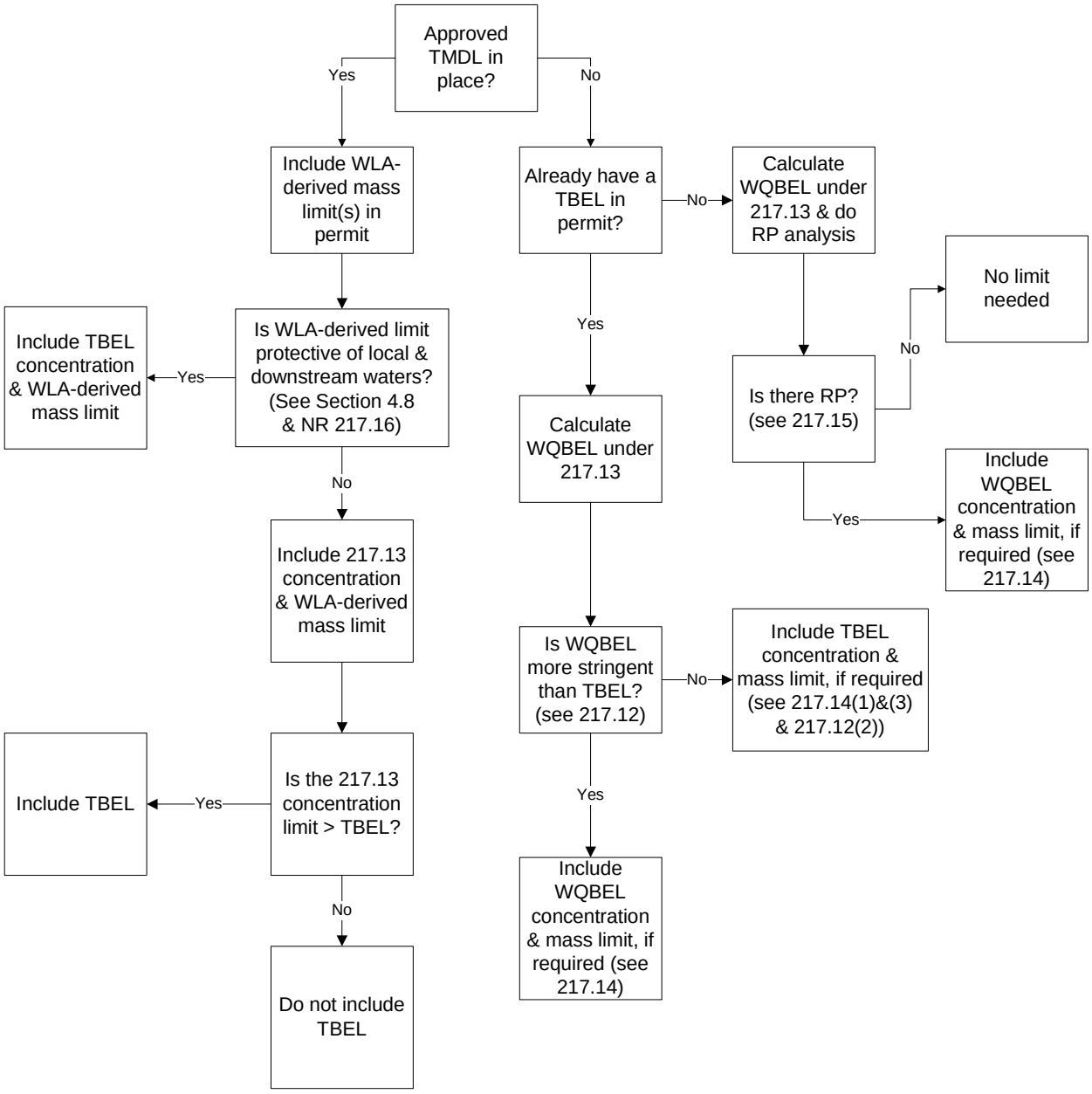
Total maximum daily load (TMDL)-derived effluent limits, usually expressed as a mass, must be included in a WPDES permit whenever a facility is given a wasteload allocation in a USEPA approved TMDL, in order to be consistent with the goals of that TMDL. In addition to TMDL-derived mass limits, other WQBELs and/or technology-based limits (TBELs), usually expressed as a concentration, may also need to be included in WPDES permits to ensure protection of local and downstream water quality, and to conform to regulatory requirements for specific pollutants.

If the same parameter is regulated by a TMDL-derived limit and a TBEL, both limits should be included in the permit. When a TMDL-derived limit is given, the permittee must continue to comply with applicable TBELs even if the permittee acquires additional load or wasteload allocation through trades. Conversely, the permittee must also continue to comply with applicable TMDL-derived limits should the TBEL increase due to increased production or expansion of the facility (see ch. NR 217.12 for language that pertains to phosphorus effluent limits expressed as concentrations).

A TMDL-derived limit may replace another WQBEL in a permit. A TMDL-derived limit replaces the non-TMDL WQBEL in the permit if the same parameter is regulated by both limits and the TMDL-derived limit is more restrictive than the non-TMDL WQBEL. If the TMDL-derived WQBEL is less restrictive than the non-TMDL WQBEL already in effect, the less restrictive TMDL-derived limit may replace the non-TMDL WQBEL if the TMDL-derived WQBEL is for the immediate receiving water and then only after antidegradation requirements are met. Specific administrative rule provisions must also be in place to allow this replacement. For example, s. NR 217.16, Wis. Adm. Code, allows the WLA-derived limit to

replace the non-TMDL WQBEL under certain circumstances, as shown in Figure 1 below and explained in the next section.

Figure 1. Determining Which Phosphorus Limits Are Needed



4.8 Phosphorus: Comparing NR 217.13 limits to TMDL-based phosphorus limits

There are three types of phosphorus limits that can be included in WPDES permits: phosphorus TBELs (NR 217 Subchapter II, Wis. Adm. Code), phosphorus WQBELs (s. NR 217.13, Wis. Adm. Code), and TMDL-derived phosphorus WQBELs. Some or all of these phosphorus limits may need to be included in

WPDES permits upon reissuance. The purpose of this guidance is to help staff determine which phosphorus limits, if any, need to be included in WPDES permits.

Including a TBEL in addition to the TMDL-derived WQBEL
A phosphorus TBEL must be included in a WPDES permit when a TBEL is triggered pursuant to s. NR 217.04(a)(1-6), Wis. Adm. Code, unless a more restrictive s. NR 217.13 WQBEL, which is expressed as a concentration, has taken effect in the permit. An exception may occur when the permittee enters into a water quality trading agreement to demonstrate compliance with a more restrictive s. NR 217.13 WQBEL, however. See applicable water quality trading guidance to determine whether the TBEL remains in the permit in those situations.

A TBEL, which is expressed as a concentration, is not replaced by TMDL-derived WQBELs, which are expressed as a mass. Both the TBEL and the TMDL-derived WQBELs should be included in the permit unless the TBEL is displaced by a more restrictive s. NR 217.13 WQBEL.

Including a TMDL-derived WQBEL
TMDL-derived phosphorus WQBELS *must* be included in WPDES permits whenever a facility is given a phosphorus WLA in a USEPA approved TMDL (s. NR 217.16, Wis. Adm. Code). These TMDL-derived limits are mass limits and are expressed consistently with the TMDL (see Section 4.1 for details).

Including a NR 217.13 WQBEL in addition to the TMDL-derived WQBEL
Section NR 217.16, Wis. Adm. Code, states that the Department may include a TMDL-derived WQBEL for phosphorus in addition to, or in lieu of, a s. NR 217.13 WQBEL in a WPDES permit. If the direct receiving water is the impaired segment covered under a USEPA approved TMDL, or if the TMDL was derived so that local and downstream water quality criteria would be met through TMDL implementation, the WLA-based limit can be included in the WPDES permit absent the s. NR 217.13 WQBEL. This limit should be expressed in a manner consistent with the wasteload allocation and assumptions of the TMDL (see Section 4.1).

Under certain TMDL scenarios facilities may be given WLAs to protect a downstream impaired water, but these WLAs may not be sufficient to protect water quality in the immediate receiving water body segment. In these situations Department staff should use professional judgment to determine whether a s. NR 217.13 WQBEL is necessary. In order to be environmentally protective, it is recommended that both the TMDL-derived limit and s. NR 217.13 WQBEL be included in the permit unless sufficient evidence can justify dropping the latter limit. When deciding whether to use a WLA-based WQBEL as a substitute for the WQBEL calculated under s. NR 217.13, the Department shall consider the following factors (s. NR 217.16(1)(a-c), Wis. Adm. Code):

1. **The degree to which nonpoint sources contribute phosphorus to the impaired water**.

   If the watershed is nonpoint source-dominated, it is likely that TMDL implementation will result in water quality improvement in the direct receiving water because nonpoint sources will be controlled in addition to point sources to meet the water quality goals downstream. If it can be demonstrated that these reductions are sufficient to meet both the local water quality goals and the downstream TMDL targets, a s. NR 217.13 WQBEL may not be necessary in the first two permit terms. This demonstration can be made by the WPDES permit holder or the Department in a TMDL implementation plan. If, on the other hand, the watershed is balanced or point source-dominated, or there is limited dilution, a s. NR 217.13 WQBEL should be included in the permit.

To determine if the impaired water in question is point or nonpoint source dominated, review the TMDL report or consider running the PRESTO model at the start of the impaired segment. Contact dnrwaterqualitymodeling@wisconsin.gov if you are interested in attaining PRESTO results for a site not currently specified in the PRESTO report- http://dnr.wi.gov/topic/surfacewater/presto.html.

If the Department determines that s. NR 217.13 limits are not necessary, the Department will re-evaluate this decision after every permit term. If after two permit terms, the Department determines the nonpoint source load allocation has not been substantially reduced, the Department may include the s. NR 217.13 WQBEL unless these reductions are likely to occur. A s. NR 217.13 WQBEL will be included in the permit after the third permit term if significant reductions have not been made (s. NR 217.16(2)).

2. Whether waters upstream of the impaired waters are meeting the phosphorus criteria.

If the local phosphorus water quality criterion is attained and/or local water quality goals are met, it may also be feasible to include the TMDL-derived limit absent the s. NR 217.13 limit. In this scenario a TMDL-derived limit will likely be sufficiently protective of both local and downstream water quality because local water quality goals are already being met in the direct receiving water and further water quality improvements will be observed through point and nonpoint source reductions during TMDL implementation. The TMDL-derived limit may be the sole limit included in the WPDES permit regardless if this limit is more or less stringent than the s. NR 217.13 limit.

3. Whether waters downstream of the impaired waters are meeting the phosphorus criteria.

If a TMDL is not protective of downstream water quality, TMDL-derived limits and NR 217.13 limits may be necessary to ensure adequate protection is given to local and downstream water quality. For example, if a TMDL is developed for a river flowing into Lake Michigan and the WLA is protective of the river but not sufficiently protective of the Lake, both TMDL-derived and s. NR 217.13 limits are likely necessary for inclusion in the WPDES permit.

When making this evaluation, thought should be given to whether the applicable criterion in the downstream water is more or less stringent than the criterion of the upstream WLA-approved waterbody. If the TMDL is based on meeting a water quality criterion which is equal to, or more stringent than, the applicable criterion for the downstream water, the s. NR 217.13 WQBEL may not be necessary to protect the downstream water. For example, if an impaired stream flows into a large river, a s. NR 217.13 WQBEL may not be necessary to ensure the protection of the downstream water. If , on the other hand, the TMDL is based on meeting a water quality criterion which is less stringent than the applicable criterion for the downstream water, then inclusion of both the s. NR 217.13 and TMDL-derived WQBELs would be appropriate, particularly if point source loadings are significant. In these cases the Department may also wish to revise the TMDL to adequately protect the downstream water.

4. How far the point source is from the impairment.

If the impaired segment is a significant distance away from the point source in question, that TMDL-derived limit is less likely to be protective of local water quality. Additionally, the likelihood of marginal impairments between the discharge and the impaired segment increases. Therefore, both TMDL-derived WQBELs and s. NR 217.13 limits are recommended in these cases.

The above discussion pertains to facilities that do not use the receiving water body segment as their source of water. If a facility is given a WLA to protect a downstream receiving water and the facility utilizes the receiving water as its water source, it may be necessary to include a s. NR 217.13 WQBEL, expressed as a concentration and mass, in the permit to protect the immediate receiving water.

4.9 Demonstrating Compliance with TMDL-derived Effluent Limits

The following definitions should be used when evaluating compliance with TMDL-derived effluent limits.

Daily discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limits expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limits expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.

Daily maximum effluent limit means the highest allowable daily discharge.

6-Month average effluent limit means the highest allowable average of daily discharges over a specified 6-month period, calculated as the sum of all daily discharges measured during the 6-month period divided by the number of daily discharges measured during that 6-month period. For total phosphorus, 6-month periods are specified as May through October and November through April.

Monthly average effluent limit means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Weekly average effluent limit means the highest allowable average of daily discharges over a specified 7-day period, calculated as the sum of all daily discharges measured during the 7-day period divided by the number of daily discharges measured during that 7-day period. For total suspended solid effluent limits derived from TMDL WLAs, the 7-day periods are specified as the first of the month through the seventh, the eighth of the month through the fourteenth, and so on.

The following examples show how compliance with TMDL-derived effluent limits may be demonstrated. In an earlier example (page 19), effluent limits of 52.8 lbs/day 6-month average and 158 lbs/day monthly average were derived from total phosphorus (TP) WLAs for the Green Bay Metropolitan, Green Bay Facility. From Table 6 on page 37 it can be seen that had the effluent limits been in effect during 2011, the Green Bay Facility would have been in compliance with the monthly average effluent limit every month depicted except July. Note that the average mass discharge of TP for a calendar month is compared to the monthly average effluent limit of 158 lbs/day. Since the average of all 184 daily discharge values collected during the 6-month period equals 90 lbs/day, the Green Bay Facility would have been out of compliance with the 6-month average effluent limit of 52.8 lbs/day.

Continuing with this example, effluent limits of 1,196 lbs/day monthly average and 1,478 lbs/day weekly average for TSS were derived from TSS WLAs. From Table 7 on page 38 it can be seen that had TSS effluent limits been in effect during 2011, the Green Bay Facility would have been in compliance with the monthly average limit for the month of September, but not April. Similarly, the Green Bay Facility would have been in compliance with the weekly average limit for the four weekly averaging periods during September, but out of compliance for the four weekly averaging periods during April.

An additional example compares Neenah-Menasha Wastewater Treatment Facility effluent data to TP effluent limits of 19.4 lbs/day 6-month average and 58.2 lbs/day monthly average. From Table 8 on page 39 it can be seen that had the phosphorus limits been in effect during 2011, Neenah-Menasha WWTF would have complied with the monthly average effluent limit every month depicted except May. Since the average of all 120 daily discharge values collected during the 6-month period equals 39 lbs/day, the Green Bay Facility would have been out of compliance with the 6-month average effluent limit.

Table 6. Green Bay Metropolitan, Green Bay Facility 2011 Discharge of Total Phosphorus

Date	May (lbs/day)	June (lbs/day)	July (lbs/day)	August (lbs/day)	September (lbs/day)	October (lbs/day)
1	25	69	44	75	63	60
2	37	61	56	277	189	43
3	66	59	58	120	213	56
4	38	41	37	115	174	45
5	40	26	151	280	111	44
6	39	31	279	173	254	46
7	34	36	139	63	79	38
8	29	29	180	52	79	29
9	50	31	247	52	115	27
10	70	38	237	47	147	29
11	67	64	258	85	157	39
12	72	37	139	40	226	46
13	52	26	107	39	100	47
14	99	38	117	30	65	48
15	38	67	315	32	76	44
16	29	55	140	38	66	50
17	45	30	167	41	62	41
18	32	25	393	40	51	53
19	38	31	303	92	84	168
20	41	30	167	90	85	249
21	52	32	99	51	43	185
22	39	236	71	54	37	159
23	33	187	54	59	43	160
24	46	100	61	51	44	230
25	55	46	167	50	50	124
26	38	43	161	112	48	79
27	56	42	184	190	46	51
28	37	151	215	183	44	49
29	33	52	424	155	41	41
30	27	41	159	69	49	43
31	74	-	66	69	-	132
Monthly Average	46	59	168	91	95	79

Table 7. Green Bay Metropolitan, Green Bay Facility 2011 Discharge of Total Suspended Solids

	April		September	
Date	Daily Discharge (lbs/day)	Weekly Average Discharge (lbs/day)	Daily Discharge (lbs/day)	Weekly Average Discharge (lbs/day)
1	2005		2005	
2	1980		1980	
3	2733		2733	
4	2256		2256	
5	2143		2143	
6	2055		2055	
7	1486	2094	1486	939
8	1671		1671	
9	1548		1548	
10	2593		2593	
11	3471		3471	
12	4883		4883	
13	1678		1678	
14	1255	2443	1255	782
15	1392		1392	
16	3310		3310	
17	2886		2886	
18	2412		2412	
19	2191		2191	
20	1814		1814	
21	4080	2583	4080	767
22	2942		2942	
23	2265		2265	
24	2006		2006	
25	1747		1747	
26	7512		7512	
27	4628		4628	
28	3247	3478	3247	689
29	2138		2138	
30	1905		1905	
Monthly Average	2608		797	

Table 8. Neenah-Menasha Wastewater Treatment Facility 2011 Discharge of Total Phosphorus

Date	May (lbs/day)	June (lbs/day)	July (lbs/day)	August (lbs/day)	September (lbs/day)	October (lbs/day)
1	48	25	29	41	31	35
2	49	25	23	48	39	31
3	37	18	27	40	43	32
4	27	15	31	48	35	25
5	26	14	31	-	42	29
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	46	12	22	66	36	31
9	122	11	24	59	15	39
10	158	15	39	50	25	46
11	202	11	36	45	42	67
12	213	7	31	72	54	62
13	-	-	-	78	-	-
14	-	-	-	-	-	-
15	26	14	21	58	47	31
16	27	13	20	49	34	27
17	28	11	26	45	21	24
18	24	13	38	53	22	21
19	31	17	34	47	23	51
20	-	-	-	-	-	-
21	-	-	-	-	-	-
22	16	28	24	73	36	21
23	20	97	32	61	41	27
24	23	31	37	42	32	27
25	45	34	25	35	53	27
26	25	25	21	30	92	25
27	-	-	-	-	-	-
28	-	-	-	-	-	-
29	-	-	-	-	-	-
30	-	-	-	-	-	-
31	-	-	-	-	-	-
Monthly Average	60	22	29	52	38	34

4.10 Compliance Schedules

When incorporated into a WPDES discharge permit, a limit that is consistent with the requirements and assumptions of a TMDL WLA becomes a WQBEL, as discussed above in Section 4.6, starting on page 17. At the time of permit reissuance, the Department will evaluate the potential for a discharge to exceed this TMDL-derived WQBEL to determine the need for a compliance schedule. If the WQBEL has the potential to be exceeded, a compliance schedule may be granted for existing facilities to comply with these limits when justifiable (s. 283.13(5), Wis. Stats.).

A compliance schedule may not be included in the permit for a new discharge. Chapters NR 106, NR 207, and NR 217, Wis. Adm. Code, have different definitions of "new discharges" making it necessary to complete a new discharge determination on a case-by-case basis, depending on the pollutant(s) covered under the TMDL. If a date certain is not available in rule for a given pollutant, a new discharge can be defined as a discharge that is issued a WPDES permit on or after the effective date of the TMDL and was not given a WLA under that TMDL.

Procedures for granting and administering a compliance schedule may be specific to the point source type (e.g., wastewater treatment plant, municipal storm water) or specific to the pollutant (e.g., phosphorus in s. NR 217.17, Wis. Adm. Code). Prior to issuing a compliance schedule, the Department must use available information to determine if the schedule of compliance 1) will lead to compliance with the WQBEL as soon as possible, 2) is appropriate and necessary because the permittee cannot immediately achieve compliance with the WQBEL based on existing operation of its treatment facility, and 3) is consistent with a TMDL implementation plan in the AWQMP, if appropriate. The following is a brief summary of compliance schedule requirements:

- The duration of a compliance schedule should be as short as reasonably possible;
- Compliance schedules must include interim steps and may not allow more than one year between compliance dates; and
- If justified, compliance schedules may extend past the expiration date of the permit only when the permit includes both an interim limit effective upon the permit's expiration date and the final effluent limitation, which is advisory in that it does not become effective within the permit's term.

There are many factors the Department can consider when determining the appropriate length of a compliance schedule. These can include the stringency of the limit, the length of time the facility has already had to consider compliance options, and the complexity/cost of the compliance options, among others. For TMDLs that cover multiple pollutants, Department staff will need to evaluate the need for, and appropriate duration of a compliance schedule for each pollutant separately from one another. In these instances, however, the Department may consider the similarities and differences in compliance options for these pollutants. If similar compliance options will likely be used for both pollutants, the Department may wish to coordinate the timing between the compliance schedules.

Example 1: A TMDL is developed to control TP and TSS pollution. A facility needs to install treatment technology to comply with both phosphorus and TSS limits. To avoid the need for separate facility plans and overlapping construction projects, it makes sense to synchronize the compliance dates for TSS and phosphorus in the permit.

Example 2: A TMDL is developed to control TP and TSS pollution. A facility needs to install treatment technology to comply with phosphorus limits, but can optimize treatment to meet the TSS limit. In this

case, the compliance schedules should not be synchronized as the TSS limit can be achieved far sooner than the phosphorus limit.

4.11 Available Wasteload Allocations (WLAs)

TMDLs are developed to establish maximum allowable loads for an impaired water body to assure water quality standards will be met. The wasteload allocation (WLA) is the portion of the maximum allowable load allocated to point sources that discharge into the impaired waterbody. For holders of specific WPDES permits, the TMDL will usually enumerate individual WLAs. The individual WLA is used as the basis for effluent limits in the point source's WPDES permit.

According to USEPA guidance, individual WLAs may be adjusted during the WPDES process, so long as the total WLA expressed in the TMDL remains the same or decreases and there is no reallocation between the total WLA and the total load allocation. An example of a necessary WLA adjustment may include making needed corrections to WLAs that come to light after the TMDL was approved. In some cases it may be appropriate to account for an existing point source that was 'missed' or under-allocated during TMDL development. These sorts of corrections should be made before any available WLA is set aside in reserve capacity or reassigned to other permittees. This WLA adjustment process does not require establishment of a new TMDL, but affected permittees and other interested parties should be notified, as described in the paragraph below on page 42, titled 'Public Noticing'.

Reassigning Available WLAs
One example of a need to adjust individual WLAs is when a point source discontinues its surface water discharge, due to the closing of the facility or to rerouting the discharge to a municipal wastewater treatment facility, for example. It should be noted that a WLA which has been used to derive effluent limits in an issued WPDES permit should not be reassigned until that permit has been terminated or the TMDL-derived limit is removed from the permit in question (i.e., that permit no longer allows a surface water discharge containing the pollutant of concern in the TMDL).

Once a WLA becomes 'available' due to a permitting action, it may be reallocated to another point source, set aside as reserve capacity (see more discussion of reserve capacity below), or designated for other uses. If the process for reassigning WLAs is not laid out in the TMDL implementation plan, the following options are recommended approaches for TMDLs across the State. It should be noted that it is the Department's decision to determine where to allocate available WLAs, not the decision of the point source that is terminating its discharge. Pursuant to 40 CFR 122.41(g), a WLA in a WPDES permit is not a property right nor exclusive privilege of a point source.

<u>Scenario 1: Reassigning WLA from a point source that sends its effluent to another point source discharger for treatment</u>

Rather than discharging their effluent directly, some point sources may choose to send their effluent to another point source for further treatment. For example, an industry that previously treated and discharged its own wastewater may decide to connect to a POTW for wastewater treatment. Or a smaller municipality may connect to a larger POTW rather than continue to treat its own wastewater. In these cases, it is recommended that the available WLA be added to the WLA of the point source that is accepting the additional effluent. Adjustments to the available WLA may be necessary to accommodate the change in location of the discharge. It should be noted, however, that any proposal to increase an

existing discharge or create a new discharge to surface waters of the state may have to make appropriate antidegradation demonstrations, as required by ch. NR 207, Wis. Adm. Code.

Scenario 2: Reassigning WLA for a point source that is no longer discharging

Upon termination of a permit containing TMDL-derived effluent limits, or the elimination of the surface water outfall from a permit, the WLA may be reassigned where appropriate. When Department staff are deciding whether or how to reassign an available WLA, staff should consider the following actions:

1. Roll the available WLA into the "reserve capacity" of the TMDL to allow for future growth; and/or
2. Give the available WLA to a point source(s) in need of a s. 283.15, Wis. Stats, statutory variance for the TMDL-derived limits; and/or
3. Give the available WLA to a point source(s) with a new or expanding discharge.

When reassigned to other point sources, WLAs should only be given to other dischargers where localized impairments will not result. In some cases, this will limit these reallocations to discharges within the same TMDL reach or a nearby downstream reach. Furthermore, available WLAs should only be given to another point source upon written request and if sufficient need is demonstrated. If a point source cannot demonstrate sufficient need, the available WLA should be set aside in reserve capacity for future needs or growth. As noted above, if there is to be an increase in an existing discharge above a limit that has already taken effect, or a new discharge, an antidegradation evaluation as required by ch. NR 207, Wis. Adm. Code, may be necessary.

TMDL implementation plans should specify procedures for reassigning WLAs if different from the guidance given here. When available, TMDL implementation plans supersede this guidance. Further, each TMDL implementation project should determine a strategy for tracking available and reassigned WLAs. Also, for specific BOD allocations established in ch. NR 212, Wis. Adm. Code, the procedures in that chapter must be followed for reallocations or temporary transfers of those WLAs.

Public Noticing
If the Department determines that available WLA should be placed in reserve capacity, it should provide notice that the Department has taken this action on the website where permits are public noticed (http://dnr.wi.gov/topic/wastewater/PublicNotices.html). If a point source has requested available WLA or reserve capacity and demonstrated sufficient need, and if the Department has determined there will be no negative localized impacts, the Department should publish notice of the proposed reallocation and provide a minimum of 30 days for other persons to declare interest in the available WLA or provide comment. Within 30 days of the end of that notice period, upon request of an interested party, the Department may conduct a public meeting regarding the proposed reallocation.

The Department should make a final decision about the appropriate use of the available WLA or reserve capacity after the 30 day notice period or after the public meeting, if one is held. The Department should then notify affected permittees and other interested parties of the final decision. If the decision includes reassigning all or a portion of the available WLA to one or more permittees, this decision would be formalized by issuing/reissuing the applicable permit(s) with limits based on the adjusted WLA(s).

Available WLA vs. Reserve Capacity
The concept of available WLAs can be confused with 'reserve capacity', but they are different. In some TMDLs, a portion of the total loading capacity is set aside as a 'reserve' to allow for future increases in

pollutant loading or for other reasons. For example, if there is a proposed new or expanding discharger, this 'reserve capacity' might be used to allow the new or increased discharge. Reserve capacity is different from available WLAs in that reserve capacities are built into the TMDL. On the other hand, available WLAs are created after the TMDL has been approved, when a point source no longer needs the WLA that was set aside for them in the TMDL. However, available WLAs can be placed in reserve capacity after the TMDL is approved and then used for future increases in pollutant loading or for other reasons.

Available WLA vs. Trading WLAs
Once a TMDL-derived limit is specified in a WPDES permit, it is no longer an "available WLA". However, some facilities may not need their full WLA to comply with their limit in the near term. For example, the facility could add treatment to go above and beyond the TMDL-derived limit. In these cases, the unused portion could be traded to other point sources to help meet their limits. For more guidance regarding water quality trading visit http://dnr.wi.gov/topic/surfacewater/documents/wqt-framework-final.pdf.

4.12 Removing TMDL-derived Limits From Permits

While a surface water may be removed from the s. 303(d) list due to improved water quality, the potential for existing sources to exceed the assimilative capacity of the surface water may remain. Consequently, WQBELs included in permits to implement WLAs should remain in the permits until it is determined that the potential for exceeding the assimilative capacity has been eliminated. The means for making such a determination is a revision of the TMDL. Until the TMDL is revised, WQBELs established to implement the TMDL should remain in permits.

Limit calculators and permit drafters should be aware that removing a surface water from the s. 303(d) list does not automatically eliminate the TMDL. Until the TMDL is revised or eliminated through the continued planning process, WLAs from the TMDL must be included in permits as WQBELs.

4.13 Variances

Since a WLA from an approved TMDL is expressed as a WQBEL in the WPDES permit, the permittee may seek a variance from the limit pursuant to s. 283.15, Wis. Stats. The need for a variance would have to be based on naturally occurring pollutants or other limiting factors that prevent attainment of the standard; human caused conditions or sources of pollution that prevent attainment of the standard and cannot be remedied; hydrologic modifications that preclude the attainment of the standard and cannot be restored; physical conditions related to the natural features of the water body that preclude attainment of aquatic life uses; or that the standard would cause substantial and widespread adverse social and economic impacts. (See s. 283.15(4)(a)1.a-f, Wis. Stats., for more detail.)

A TMDL does not have to be revised if multiple permittees receive a variance pursuant to s. 283.15, Wis. Stats. Variances are intended to be temporary and the recipient of the variance is expected to eventually achieve their WLA. Therefore, the TMDL does not have to be redone.

4.14 Antidegradation

If the new TMDL-derived limit results in an increase in an effective existing limit in a permit, then an antidegradation evaluation is needed. These limitations are no different than other water quality-based

effluent limitations with respect to antidegradation. For example, the initial imposition of a water quality-based effluent limit, which include TMDL-derived limits, does not require an antidegradation evaluation as long as the pollutant of concern was previously present in the discharge and the permittee isn't proposing an increased load to the receiving water . Possible exceptions include the initial imposition of a TMDL-derived limit for a discharge to Exceptional and Outstanding Resource Waters, for a bioaccumulative chemical of concern such as mercury when an increased discharge is proposed, and when a change in discharge location is proposed.

With a few exceptions, ch. NR 207 requires an antidegradation evaluation when a new or increased discharge is proposed. Therefore, an antidegradation evaluation is necessary before a TMDL-derived limit, which has been incorporated into a WPDES permit and has become effective, is increased or the TMDL-derived limit replaces a less restrictive effective effluent limit.

Note that in most cases, complying with Wisconsin antidegradation requirements also satisfies federal antibacksliding requirements.

4.15 Managing Expiration Dates to Facilitate Implementation

Permit drafters should consult the TMDL report, amended AWQMP and TMDL implementation plan to see whether a scheme for permit expiration dates is proposed. To prevent workload issues, WPDES program staff should participate in the development of the TMDL, amended AWQMP and implementation plan.

4.16 Monitoring TMDL Performance

If a permittee agrees to perform surface water monitoring, or is required to perform this monitoring as part of an adaptive management project, surface water monitoring requirements may be placed in the permit. While the Department can require effluent monitoring to assess compliance with WQBELs based on TMDL WLAs, permits should not include surface water monitoring to verify compliance with a TMDL, unless this is required as part of an adaptive management project as specified in s. NR 217.18, Wis. Adm. Code. Note: Due to limited resources, the Department may want to think of incentives for the regulated community or a third party to perform instream monitoring.

4.17 Monitoring of Pollutants Causing Impairments

If there is cause to believe that the discharge of a pollutant may be contributing to impairment of the surface water (i.e. exceeding the water quality standard), then limit calculators should recommend that facilities monitor their effluents for the pollutant of concern prior to or during TMDL development (s. 283.55 (1), Wis. Stats.). Effluent monitoring data could be important when determining accurate loading rates from point sources for the TMDL. The frequency of monitoring necessary may depend on pollutant type, water quality standards, or site-specific factors. Permits staff should consult with TMDL development staff when developing a sample collection frequency.

4.18 WQBEL Calculator Responsibilities

Once a TMDL is approved, limit calculators should include TMDL-derived WQBELs in recommendation memos for modified or reissued permits. When preparing WQBELs recommendations, identify the TMDL

report as the source of TMDL-derived effluent limits. The TMDL report or the implementation plan should identify the WLAs that were used to derive WQBEL effluent limits. Not all of the TMDL's WLAs need to be included in the permit, however. If it is not clear what effluent limits should be included in the permit, here are a few suggestions:

- If TMDL-derived limits are not identified in the TMDL or implementation plan, you must select from the TMDL which WLAs to use as permit limits. The WLA may have to be translated into a workable permit limit, however. Refer to the sections above for detailed guidance related to how to determine which limits are appropriate and how to express WLAs as permit limits.

- Just because every TMDL provides a WLA representing a total maximum daily load, a daily maximum limit does not have to be included in permits. This is especially true when the total maximum daily load equals the monthly total or annual total load divided by 30 or 365, respectively.

Recommendation memos for WQBELs should also indicate whether the TMDL-derived effluent limit replaces other WQBELs for the same parameter and address antidegradation considerations when doing so. Recommendations for monitoring discharges of pollutants of concern to impaired waters without an approved TMDL should also be included in WQBELs recommendation memos.

4.19 Permit Drafter Responsibilities

The WQBEL recommendation memo should specify which WQBELs (including TMDL-derived effluent limits, when appropriate) should be included in WPDES discharge permits. Here are a couple of examples on how to include TMDL-derived effluent limits in permits. If you are drafting a permit with more complex TMDL-derived effluent limits, contact the Permits Section for assistance.

Example #1:

If a permit with a technology-based phosphorus effluent limit of 1 mg/L from ch. NR 217, Subchapter II, Wis. Adm. Code, is being reissued with a TMDL-derived effluent limit for phosphorus or 6.7 lbs/day monthly average, the following steps should be taken:

- Include in the draft permit the parameter "Phosphorus, Total" and continue the 1 mg/L phosphorus limit, sample frequency and sample type from the previous permit;

- Include in the draft permit the parameter "Phosphorus Total" with units of lbs/day, a monthly average limit of 6.7 lbs/day, a sample frequency from the previous permit, and a calculated sample type; and

- Code the monthly average limit in SWAMP for all twelve months of the year, beginning in the year that the limit becomes effective.

Example #2:

If a permit with monthly average and daily maximum technology-based concentration limits for TSS is being reissued with TMDL-derived effluent limits for TSS of 3,000 lbs/day monthly average and 6,000 lbs/day daily maximum, for example, the following steps should be taken:

- Include in the draft permit the parameter "Suspended Solids, Total" and continue the TBELs, sample frequency and sample type from the previous permit;

- Include in the draft permit the parameter "WLA Suspended Solids, Total" with units of lbs/day, a monthly average limit of 3,000 lbs/day, a daily maximum effluent limit of 6,000 lbs/day, a sample frequency equal to that from the current permit, and a calculated sample type;

- Code the monthly average and daily maximum limits in SWAMP for all twelve months of the year, beginning in the year that the limit becomes effective

Example #3:

If a WQBEL is derived from an annual WLA (lbs/yr), the permit should require the permittee to report 12-month rolling sums for the parameter addressed by the TMDL-derived WQBEL.

Note that the method for calculating the 12-month rolling sum is included in the standard requirements provided by SWAMP. Therefore, a special footnote to explain how the value is calculated is not necessary in the main portion of the permit.

Note that guidance for including TMDL-derived effluent limits in permits is likely to change frequently until we gain experience with implementing TMDLs by way of WPDES discharge permits and modify SWAMP to more efficiently support the implementation effort. While new guidance will be circulated to permitting staff, you may want to contact the Permits Section before including a TMDL-derived effluent limit in a draft permit.

If the permittee requires time to comply with a TMDL-derived effluent limit, see the previous guidance for compliance schedules in this document.

5 Appendix A. How to Access TMDL/WLA Information

TMDL/WLA information may be accessed in four ways:

A. Via DNR Web Site: Staff can find TMDL reports on the DNR web site.

Information about draft and final approved TMDLs can be found here: http://dnr.wi.gov/topic/tmdls/.

B. Via WATERS (Water Assessment, Tracking & Electronic Reporting System): It is possible to determine whether or not a TMDL is being or has been prepared for a particular waterbody by reviewing an "Impaired Waters Report" in WATERS. Here's how to do it:

Start by connecting to WATERS link under "DNR Tasks" on the DNR Intranet home page or at: http://prodoasjava.dnr.wi.gov/wadrs/.

1. Log on to WATERS using your Oracle ID and password.
2. Click on the "Reports" tab.
3. Select "Impaired Water Reports."
4. Click on the drop-down box in the "Impaired Water Status" field and select either "TMDL Development" or "TMDL Approved."
5. Finally, click "Create Report."

Where applicable, TMDL reports (and the associated WLAs) are available to download from the "Waterbody Documents" section for a particular waterbody in WATERS.

C. Via WT Webviewer (Intranet Surface Water Data Viewer): It is possible to determine whether or not a TMDL is being or has been prepared for a particular waterbody by viewing and/or creating a map in the Surface Water Data Viewer. Start by connecting to the "WT Webviewer" link under "DNR Tasks" on the DNR Intranet home page or at: http://dnrintranetmaps.enterprise.wistate.us/imf/imf.jsp?site=watershed

1. Click the "Find Location" tab.
2. To specify what you would like to find, select "Waterbody Name and County."
3. Enter the applicable waterbody and county information, click "Go!" A map showing the waterbody will appear. Zoom in and out as necessary.
4. Click the "Layers" tab.
5. Under "Watershed Management Layers," click on the "Standards, Monitoring, & Assessment Data" subfolder.
6. Under the "Impaired Waters" subfolder, select the "TMDL status" layer.
7. Finally, click on the "Legend" tab to determine the TMDL status for the waterbody in question.
8. If desired, click on the "Print" tab to print a PDF version of the map.

D. Via USEPA's Assessment TMDL Tracking and Implementation System (ATTAINS): It is possible to determine whether or not a TMDL has been prepared for a particular waterbody by viewing USEPA's ATTAINS web site at: http://www.epa.gov/waters/ir/. Users need to click on the state of Wisconsin on the map and then follow the link to the most current "Impaired Waters Report." From that report, users can conduct a "TMDL Document Search" by clicking on the link with that title.

6 Appendix B. How to Access Impaired Waters Information

Impaired waters information may be accessed in three ways:

A. Via DNR Web Site: DNR staff can find impaired water information, including the s. 303(d) List of Impaired Waters, on the DNR web site at: http://dnr.wi.gov/topic/impairedwaters/.

B. Via WATERS (Water Assessment, Tracking & Electronic Reporting System): It is possible to determine whether or not a waterbody is impaired by reviewing an "Impaired Waters Report" in WATERS. Here's how to do it:

Start by connecting to WATERS link under "DNR Tasks" on the DNR Intranet home page or at: http://prodoasjava.dnr.wi.gov/wadrs/.

1. Log on to WATERS using Oracle ID and password.
2. Click on the "Reports" tab.
3. Select "Impaired Water Reports."
4. Click on the drop-down box in the "Impaired Water Status" field and select "303d Listed."
5. Finally, click "Create Report."

C. Via WT Webviewer (Intranet Surface Water Data Viewer): It is possible to determine whether or not a waterbody is impaired by viewing and/or creating a map in the Surface Water Data Viewer. Here's how to do it:

Start by connecting to the "WT Webviewer" link under "DNR Tasks" on the DNR Intranet home page or at: http://dnrintranetmaps.enterprise.wistate.us/imf/imf.jsp?site=watershed.

1. Click the "Find Location" tab.
2. To specify what you would like to find, select "Waterbody Name and County."
3. Enter the applicable waterbody and county information, click "Go!" A map showing the waterbody will appear. Zoom in and out as necessary.
4. Click the "Layers" tab.
5. Under "Watershed Management Layers," click on the "Standards, Monitoring, & Assessment Data" subfolder.
6. Under the "Impaired Waters" subfolder, select the "Impaired Waters (303d)" layer.
7. Finally, click on the "Legend" tab to determine the impaired waters status for the waterbody in question.
8. If desired, click on the "Print" tab to print a PDF version of the map.

7 Appendix C. Statutes and Administrative Rules Relevant to TMDLs

Chapter 227.52, Wis. Stats., ADMINISTRATIVE PROCEDURE AND REVIEW
(Go to: http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=stats&jd=Ch.%20227)

Chapter 283, Wis. Stats., POLLUTION DISCHARGE ELIMINATION
s. 283.13 (5) SUBCHAPTER III STANDARDS; EFFLUENT LIMITATIONS
(Go to: http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=stats&jd=Ch.%20283)
s. 283.31 SUBCHAPTER IV, PERMITS
(Go to: http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=stats&jd=Ch.%20283)
s. 283.35 (3) WITHDRAWAL.
(Go to: http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=stats&jd=Ch.%20283)
s. 283.83 SUBCHAPTER V, GENERAL PROVISIONS: ENFORCEMENT
s. 283.83 Continuing planning process.
(Go to: http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=stats&jd=Ch.%20283)
s. 283.84 Trading of water pollution credits.
(Go to: http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=stats&jd=Ch.%20283)

Chapter NR 102, Wis. Adm. Code, WATER QUALITY STANDARDS FOR WIS SURFACE WATERS
102.06 Phosphorus.
(Go to: http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=code&jd=top)

Chapter NR 121, Wis. Adm. Code, AREAWIDE WATER QUALITY MANAGEMENT PLANS
(Go to: http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=code&jd=top)

Chapter NR 151, Wis. Adm. Code, RUNOFF MANAGEMENT
NR 151.004 Performance standards forTMDLs.
NR 151.07 Nutrient management.
NR 151.24 Post–construction performance standard.
(Go to: http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=code&jd=top)

Chapter NR 200, Wis. Adm. Code, VARIANCES
(Go to: http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=code&jd=top)

Chapter NR 212, Wis. Adm. Code, WASTE LOAD ALLOCATED WQ RELATED LIMITATIONS
(Go to: http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=code&jd=top)

Chapter NR 216, Wis. Adm. Code, STORM WATER DISCHARGE PERMITS.
NR 216.002 Definitions.
NR 216.023 Urbanized area exemption.
NR 216.025 Designation criteria.
(Go to: http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=code&jd=top)

Chapter NR 217, Wis. Adm. Code, PHOSPHORUS EFFLUENT STANDARDS AND LIMITATIONS
(Go to: http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=code&jd=top)

FEDERAL LAW/REGULATIONS

Overview: Go to: http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/index.cfm
Section 303(d) of the 1972 Clean Water Act
40 CFR Part 130 (1985, amended 1992)